



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>



No.

**BOSTON
MEDICAL LIBRARY
ASSOCIATION,
19 BOYLSTON PLACE.**

Received

July 31 1893

Loaned by

Harv Pent Lh

THE
BRITISH JOURNAL
OF
DENTAL SCIENCE.

VOL. XXIII.
JANUARY—DECEMBER, 1880.

LONDON:
J. & A. CHURCHILL, NEW BURLINGTON STREET.

PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE.

British Journal of Dental Science.

No. 287. LONDON, JANUARY 1, 1880. VOL. XXIII.

Dental Surgery and Medicine.

ON THE THIRD MOLAR.

A paper read before the Students' Society of the Dental Hospital of London, November 24th, 1879,

By C. D. DAVIS, Esq.

MR. PRESIDENT AND GENTLEMEN,—In selecting a subject on which to read a paper before you it is somewhat difficult to find one which has not already been taken up by some member of the Society, whose paper, thanks to the kindness of the Editor, Mr. Fox, may be referred to in the pages of the 'British Journal of Dental Science.'

The one which I have chosen may seem at first sight of little interest or importance, but as my apology for bringing it before you I must refer you to the remarks of the French surgeon Nélaton, who says that the symptoms produced in the painful eruption of wisdom teeth have been mistaken for caries of the jaw, for syphilis, and for cancer, and to this we might add that affections of these teeth have actually produced temporary lockjaw, blindness, and paralysis of the arm. If, then, these serious consequences follow affections of the third molar it will be readily admitted that a consideration of the special conditions giving rise to them is of some importance to the Dental surgeon. Nor is the subject of interest from a surgical and pathological point only; there are questions of evolution and development connected with it which it may be worth while to touch upon.

I am fully conscious of my inability to treat the subject thoroughly and efficiently in either of its aspects, but I hope the very deficiencies of the paper may be the means of provoking a good discussion. There appears to be conclusive evidence that the third molar in man is gradually becoming extinct, and possibly at some period in the distant future the then members of this Society may be discussing the

third molar, not as a reality with which they have to deal, but as a curiosity of which they sometimes read and rarely see an example.

Mr. Weiss, in a paper read before the Odontological Society, gives the following statistics:—"Of 312 patients over twenty-six years of age, 152 had deficiencies of wisdom teeth; 29 had no third molars at all; 44 had deficiencies in the upper and lower jaws; 76 in the upper jaw only; 32 in the lower only. In 312 patients 304 wisdom teeth were missing."

Mr. Weiss goes on to remark:—"I have particularly noticed that wherever any of the fourteen permanent teeth are absent the wisdom teeth will be found to be missing also." He further mentioned a remarkable case of gradual extinction of the wisdom teeth in one family. The father, a gentleman of good physical and mental development, erupted all his wisdom teeth; the son had no upper wisdom tooth on the right side and a very small one on the left; the grandson had no upper wisdom teeth, and the lowers were rather small in size.

Mr. Charles Tomes, at the same meeting, speaking on Mr. Weiss's paper, said: "If in any group of animals, obviously united by descent, any organ was gradually disappearing, it would be found that that organ was variable," and, applying this principle to the wisdom teeth of man, mentioned the fact that, while in the lower races of mankind the wisdom tooth was a well-developed functional tooth, with regular and well-formed cusps, in the highly civilised races it was unusual to find the lower wisdom tooth with four well-developed cusps.

The researches of Mr. Mummery on this point are of interest, as showing the tendency for the third molar to disappear in weaker races. He examined 439 skulls of various African tribes. In 141 from powerful races there was not one deficient wisdom tooth. Among some vigorous Dahomians, indeed, there were two cases of a fourth upper molar on each side, one of a fourth upper molar on the right side, and three of a malformed fourth upper molar. But among feebler tribes there were no supplementary teeth, and the lower wisdom was absent in ten per cent. Mr. Woodhouse has recorded two cases of a fourth molar occurring in his practice.

The third molar is of all teeth the most irregular in size, shape, position, and date of eruption, that of the upper jaw more frequently showing variation in size and shape. Nominally the wisdom teeth more or less resemble the other molars of the jaw in which they are placed, but generally

are somewhat smaller, do not present such fully developed crowns, and the fangs are often fused together and curved slightly backwards. They may be small in size, with an almost circular flat rough crown, about the size of a bicuspid, or round and pointed somewhat like a canine.

On the other hand, Mr. Tomes, in his 'Manual of Dental Surgery,' figures a wisdom tooth double the ordinary size, and having eight cusps.

The date of eruption is also very variable, the usual period being between the ages of seventeen and twenty-five years, but cases have been known where the wisdom teeth have been cut as early as the fifteenth and as late as the eightieth year. The eruption of these teeth is often much retarded, and cases of malposition and impaction are by no means rare, more especially in the lower jaw. The reasons of this are not difficult to trace.

At the age of thirteen or fourteen, when all the other permanent teeth are in position, the jaws appear well filled, leaving no room for the eruption of the last molar, the development of which is progressing, as had previously been the case with the other molars, beneath the base of the coronoid process. The elongation of the lower jaw necessary to make room for these teeth is effected, not by interstitial growth of the bone, but by the deposit of new bone on the posterior edge and the coincident absorption of bone from the anterior edge of the ascending ramus. In the upper jaw the elongation is effected by the deposition of bone on the tuberosity of the upper maxilla.

It will thus be seen that the space to be occupied by the third molar in the lower jaw is rigidly bounded in front by the second molar, and behind by the anterior edge of the ascending ramus; and should the elongation of the alveolar ridge be insufficient, the eruption of the wisdom teeth will be proportionately more difficult, the pressure greater, and the pain and other symptoms more severe.

In the upper jaw there is not the same rigid boundary behind, and the tooth to be erupted is usually smaller in size than its antagonist of the lower jaw. The finger can at all times be passed behind the tuberosity of the upper maxilla, and thus the third molar, even if prevented from assuming an upright position by the backward sloping of the second, may point backwards and downwards, and appear well above the gum without touching the nearest bony point.

The above remarks will in some measure account for the liability of the wisdom teeth to be retarded in their eruption or impacted, and the greater severity of the symptoms when the teeth of the lower jaw are affected.

The symptoms attending the eruption of the wisdom teeth vary greatly. In most people there is, when the time of eruption is approaching, an ill-defined feeling of pain and uneasiness about the angle of the jaw, and sometimes in and about the ear also, the gum behind the second molar being at the same time tense and tender. These may be the only symptoms, gradually subsiding as the tooth appears through the gum, and not distressing enough to induce the patient to seek advice.

In other cases the mucous membrane over the coming tooth, especially if half the crown of the tooth lies beneath the base of the coronoid process, becomes pinched and inflamed, and may suppurate, the pus, according to Salter, forming within the enamel sac over the crown of the tooth. The surrounding parts inflame and swell, mastication and swallowing become difficult and painful. The lymphatic glands behind the angle of the jaw are also at times swollen and tender.

When a tooth is unable from want of space to assume the normal position, it may be dislocated and be found lying in some abnormal situation; though all cases of impaction and malposition are not to be attributed to this cause, it being very evident in some instances that the tooth must have assumed an abnormal position before the want of space on the alveolar border could have any influence upon it.

The abnormal positions in which the wisdom teeth are found are numerous. Mr. Tomes mentions several instances in his 'Manual of Dental Surgery.' In one the third molar on each side of the lower jaw was found in the substance of the ascending ramus, the crown of the one on the right side projecting into the sigmoid notch. In another the tooth pierced the skin just behind the angle of the jaw, the crown being surrounded by a puckered band of cicatrix-like tissue; in a third the tooth was erupted in the middle line of the palate; and in a fourth was found in an inverted position, firmly embraced between the roots of the second molar.

The symptoms attending impaction of the wisdom tooth are often severe, and may continue for a long time if the impaction is not relieved. Mr. Coleman extracted a misplaced wisdom tooth which had given rise to symptoms of jaw disease for twenty-four years; and the following case, which came under the notice of Mr. J. H. Mummery, will show the severity of the symptoms which may arise, and how readily they abate on removal of the offending tooth. The patient was a civil engineer and suffered for two years with occasional swelling of the right lower jaw. Subsequently supuration occurred at the angle of the jaw, causing great

suffering, followed by a spontaneous external opening, from which pus escaped. When Mr. Mummery saw him he had considerable stiffness of the jaw which could scarcely be opened at all. The gum, which was much inflamed and thickened behind the second molar, was freely lanced and a piece excised to relieve the suffering. Thin pus escaped from three fistulæ, one below the angle of the jaw, a second an inch above the clavicle, and a third between the other two. A probe passed into the upper one went upwards and backwards towards the wisdom tooth, which could be detected pointing forwards and downwards. The tooth was extracted with difficulty, under chloroform, with double-bladed bayonet stump forceps. It was large and of normal form. In a fortnight the fistulæ had closed and the patient was free from pain.

(To be continued.)

A REMARKABLE CASE.

By J. H. KYAN, Esq., L.D.S. Eng.

WE frequently meet with instances where the full complement of teeth is incomplete, but it is not often that irregularities like the following are exhibited by *all* the members of a family.

Four sisters, ages from fourteen to five years, are all without the upper laterals. One of these, however, cut the temporary laterals, but manifested the family characteristic when possessed of the permanent set. The youngest has no upper laterals in the temporary, and will probably, like the rest of the family, be without them in the permanent set.

There does not appear to be any hereditary predisposition or ascribable cause, as both parents possess the usual number of teeth, and no relative on either side was known to display so marked a peculiarity.

Mechanical Dentistry.

CHAPTERS ON MECHANICAL WORK, ILLUSTRATED BY CASES IN PRACTICE.

By F. H. BALKWILL, Esq., L.D.S., Plymouth.

(Continued from Vol. XXII, page 63.)

ON THE ARRANGEMENT OF ARTIFICIAL TEETH WITH REGARD TO PERSONAL BEAUTY.

WHEN the pupil is promoted from the workroom to the operating-room, or on commencing practice begins to have patients of his own, he finds himself confronted by a class of difficulties which previously he had taken little account of, and which are not less real than the troubles of the workroom, although not so definite or tangible.

He wishes to please himself with the appearance presented in the mouth by the teeth he adapts for his patients—he wishes to please them, he wishes to please their friends, and he wishes to do himself credit with the general public, but he finds in practice that the opinions of the four interests indicated under these heads do not always coincide so exactly as he may think they ought to do in theory. He has been working with or for an old-established practitioner, and he is surprised to find that the choice and arrangement of teeth which under this superintendence was a matter of course, and of the greatest ease, has now become a matter of great uncertainty and anxiety. Persons whom he is convinced would have been satisfied with anything his old preceptor liked to place in their mouths do not scruple to criticise the effect which those he puts in produce even after he has taken great pains. To pacify them he explains that he has used the best and most expensive teeth of the best makers, but they still persist that they are not satisfied. He assures them that he has had great experience, that it cannot be done better, and perhaps, thinking it time to take a firm stand as a professional man and control their whims and fancies, says that they must trust to his judgment, that the teeth feel strange at first, but that a little time will reconcile them to their appearance; they, however, sometimes have the bad taste to retort that nothing would induce them to wear such things for a moment even if obliged to pay for them. He is now reduced to the extremity of maintaining his dignity and losing his patient, and probably

a connection; or if he has too much sense to do this he will eat humble pie, alter his work, and try if he cannot hit the mark better.

We will suppose in another case that he has pleased himself and the patient. The fee is paid, and matters are so far comfortable, when he learns that some friend or relation of the latter whom he had expected on his recommendation has gone somewhere else for a set on seeing his friend, and this gives him an uncomfortable misgiving that all was not as it seemed. Or, one day some unprejudiced and indifferent patient casually remarks to him, "What a frightful set of teeth Mrs. Blank has! Who ever made them? I wouldn't go to that Dentist for anything;" when he finds it expedient to pass the subject as lightly as possible.

All this is very trying to the young Dentist, and he feels inclined to say that it is merely a matter of taste—"Tastes differ." He does not see why his is not as good as any other person's. It is only because he has not made a name, and so people have not faith in him which makes them hypercritical. If a well-known man had put in the sets it would have been all right. This is partly true, no doubt. Tastes do differ. Of two competent practitioners in the same town one will use a great many more of one maker's teeth, or one particular style of teeth, and mount them generally in such a way as to be distinguished from the other, yet both will be equally successful. Each is following out some rule or taste of his own, however, which experience has endorsed, and does not merely follow his individual fancy. A good taste, therefore, is to be cultivated, as, when acquired, it is the best directing guide which can be had. The young Dentist is sure to have a taste of his own, in the correction and management of which his great difficulty lies. It is generally good enough to approve of the appearance of a set when it is right, but not good enough to show him how to get this appearance when it is wrong; and it often becomes so prejudiced during the process of making and finishing the work as to have lost all true judgment by the time this is placed in the mouth.

Without doubt patients are more critical and suspicious of the beginner than of their old tried friend. But then they have a perfect right to be so; he is comparatively inexperienced, and has no right to expect the confidence which he has not created. He must remember that they come to him between hope and fear, wishing to do him a good turn if they can, perhaps hoping to get their work done at a less price; but when they find themselves in his hands an instinctive dread, born of the facts of the case, seizes them

that they may have made a mistake, and this sharpens their suspicions and magnifies defects. If he will now take pains to do something for his patient as well as for himself by really satisfying the requirements of the particular case, he will secure a friend who will sound his praises on every suitable occasion.

As has been said before, the natural taste of the pupil has to be corrected and educated, to do which in a general way he cannot do better than read Lavata on 'Physiognomy,' and Ruskin's 'Modern Painters.' He will not find much definite or practical help from these, but they will show him how wide the subject is, and disabuse him of some pet notions of his own which might lead him into bad mannerisms. He may have a bias towards pretty little teeth or large bold teeth; or think that the patient will be pleased with nice white or bright teeth; that self-coloured teeth have an educated air, or dark teeth look natural; that it is well to point the arch a little, give it a good bold sweep, make it perfectly symmetrical, or set the teeth a little irregularly; to point the front teeth forward, or make them stand well upright; to keep the cutting edges as received from the maker, or to notch them. These expedients are all good in their places, but neither must be used unsuitably. It is clear, then, that we must keep these four points always in view:—To please the patient, to gratify his friends, to do ourselves credit with the public, and gradually improve our own taste and judgment, avoiding any peculiar style or mannerism. We are not altogether to copy nature, for no one can be more alive than the Dentist to the fact that the natural teeth are often anything but a standard of beauty as a feature. On the other hand, we cannot construct an ideal type by making an abstract of the characters of the most beautiful natural mouths we meet with to be applied in every case. If we do this we shall find that, although the set may look beautiful in the hand, in many mouths it will at once impress the beholder as being a foreign body.

Every organ more or less expresses the character of the individual to whom it belongs, and the teeth do so in no small degree; therefore, if they do not harmonise with the rest of the characteristics of the patient, a false impression is at once produced.

Most people wish that their appearance should be of as much advantage to them in their social intercourse as possible, and however strongly they may assert that they only wish for comfort and use, we shall do well to accept the statement with certain allowance; still, it is to be remembered that many persons have a more or less vitiated standard of

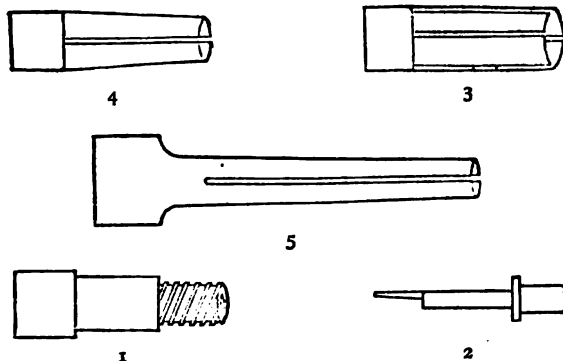
excellence in their own minds, which is often produced by a tendency to go to the opposite extreme of some defect from which they have suffered themselves, or disliked in the appearance of others; the general desire seems to be to have small bright white teeth, regularly arranged; as a rule, the less refined and educated the patient the more strongly will this type be insisted upon; and although this taste must not be yielded to, so far as to give the patient a very artificial or formal looking set, we must not altogether lose sight of it.

It is, on the other hand, to please patients of the highly refined and cultivated classes that we find a real difficulty; these appreciate a harmonious choice and arrangement, and their approval is often a guarantee and forerunner of that of the more general public.

(To be continued.)

DENTAL INVENTIONS.

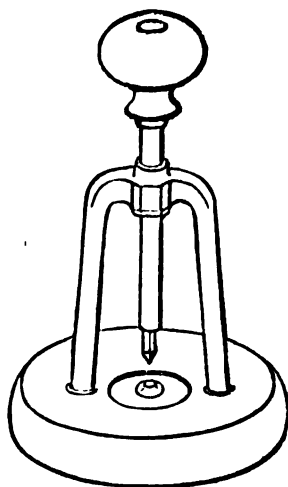
By FRANK RICHARDSON, Esq., L.D.S.I., Derby.



DENTAL CHUCK.—This neat and ingenious little arrangement affords a handy means of employing the lathe for many work-room operations hitherto done by hand. In fine-fitting tube and other teeth it will be found to yield exceedingly satisfactory results, as the more the button wheels are worn the more useful they become, owing to their decreased diameter. In drilling, the process being immediately under the eye and control of the workman, and the hand and body at rest, more accurate results ensue than are attainable with the old

10 RICHARDSON'S DENTAL BUTTON-WHEEL CENTERER.

drill bore, and by using engine burrs (old ones answer well) any roughness or inequality in the backs of teeth clasps, &c., resulting from soldering, is readily removed. The sandcloth carrier will get up either plate or vulcanite more thoroughly and in less time than can be done by hand, after which, by using the cane-carrier, with pumice and oil (followed by Ayr stone if desired), and finishing off with whiting or rouge, as the case may be, it will be found that the work is not only better done, but a considerable saving of time is effected. The chuck will carry burrs, drills, circular saws, button wheels, polishing brushes, wheels, corundum countersinks, Ayr stones, canes, sandcloth, &c. It is made entirely of steel and tempered, and is adapted to Ash's No. 3 lathe, but can be adapted to any other by forwarding the head to Mr. Richardson, who will return it after a few hours' detention. Vulcanite taken direct from the flask can be finished off ready for placing in the mouth, by means of the various appliances, without the aid of file or riffler.



DENTAL BUTTON-WHEEL CENTERER.—This really elegantly got-up little apparatus supplies a ready means of truly centreing button wheels. Centres are permanently fixed in the wheels, which, while admitting of instant detachment from the lathe, adds greatly to their strength, and enables them to be worn down to a mere shell, when their increased usefulness in fine fitting is too obvious to need further remark.

Hospital Reports and Case-Book.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM NOVEMBER 1ST TO NOVEMBER 29TH, 1879.

Number of Patients attended	1062
Extractions { Under 14	312
{ Adults	471
{ Under Nitrous Oxide	55
Gold Stoppings	62
Sheets of Gold used, independent of Pellets	65
Other Stoppings	267
Advice and Scaling	183
Irregularities of Teeth	28
Miscellaneous	32
Total operations	1360
WILLOUGHBY G. WEISS, House Surgeon.	

British Journal of Dental Science.

LONDON, JANUARY 1, 1880.

So large a quantity of matter awaits publication in our pages that we will take no further space for our own remarks in this issue than will enable us to offer our readers our best wishes for a happy and prosperous new year to them all, thanking those who are now aiding us by their letters and other contributions for the successful launching of our old Journal on the waves of 1880, with a new flag and a new motto—INDEPENDENCE AND LIBERALITY.

THE HISTORY OF THE DENTAL REFORM COMMITTEE.

By a clerical error in the leading article at p. 795 of our last issue for December 15th the date of the commencement of the Dental Reform Committee was given as 1879 instead

of 1876. To avoid any possible error in the future we now reprint the whole passage with one or two additional dates.

“On Monday, October 27th, 1879, the Dental Reform Committee, which has accomplished so much good work, was finally dissolved. Originally planned in the pages of this Journal, subsequently adopted by a meeting held at Manchester on August 31st, 1875, which was called by Mr. Sidney Wormald for a very different purpose (according to his own statement in our pages), it was guided to a successful commencement on March 17th, 1876, by the Editor of this Journal. He then resigned the management of its future career to older hands. How Mr. Tomes and Mr. Turner with unceasing watchfulness subsequently guided it through a difficult parliamentary career until the object of its formation, a “Dentists Act,” was attained, is now matter of history. That their labours are widely appreciated by their professional brethren we trust will be shown by the amount of the testimonial now preparing for them.”

Literary Notices and Selections.

ON THE TREATMENT OF COMPOUND FRACTURES OF THE LOWER JAW.

By ISIDOR I. LYONS, L.R.C.P. Edin., M.R.C.S., L.D.S. Eng., &c.,
Assistant Dental Surgeon to St. Bartholomew's Hospital.

(Reprinted from ‘St. Bartholomew's Hospital Reports,’ vol. xiv.)

ON referring to surgical works, with one notable exception,* we do not find the same amount of attention bestowed on fractures of the lower jaw as upon those of the long bones.

The reason of this it is difficult to discover, for it may be asserted that it is equally important to a patient that the fragments of a fractured lower jaw should be placed in accurate apposition as those of a long bone; for in the latter case the fragments may be so reduced into position that,

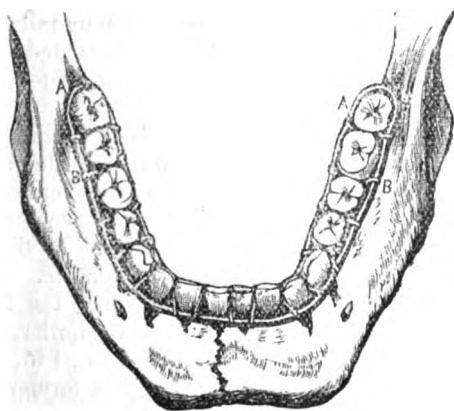
* Christopher Heath on ‘Diseases of the Lower Jaw.’

although some deformity may take place, yet the limb may be restored to its former usefulness. With the lower jaw it is otherwise.

By deformity we infer that such a displacement has taken place that the bone does not present the same appearance as it did previous to the fracture. With some bones this is of little or no consequence. Their usefulness may still be unimpaired; but with the lower jaw impaired usefulness means some loss of the power of mastication, from which may arise dyspepsia and the evils attendant thereon.

The essential difference in the treatment of fractures of the lower jaw as compared with those of other bones lies in the fact, that with the latter we are able to keep the fracture in a comparative state of rest, but with the lower jaw the bone must be allowed a certain amount of movement; so that the principal aim in their treatment would be the production of a splint which should allow the necessary movement, yet at the same time retain the fragments in complete apposition.

In ordinary practice the treatment of these fractures is generally effected by external appliances, such as the four-tailed bandage, and gutta-percha splint moulded to the chin. In cases with little or no displacement this method is tolerably successful, but in the large majority the success is not always such as may be desired; union of the fragments takes place, but their apposition is so inaccurate that the *natural* bite is *disturbed*—i.e., the points of contact between



Inter dental Wire Splint.

A A refers to outer wire.

B B to inner wire.

the teeth of the upper and lower jaw are no longer in apposition, and the patient is unable to masticate his food properly.

In some cases this is so marked that the process of mastication cannot be performed without the aid of artificial means.

In the treatment of these fractures by interdental splints the difficulty lies in their manufacture; for it is not *always* easy to make them without the aid of a specialist, and in general practice this is not at times obtainable. There is a splint invented by Mr. Hammond, during the late Franco-Prussian war, which is made of iron wire, and certainly answers all the requirements necessary; for it is not difficult of adaptation, and can be constructed by any surgeon.

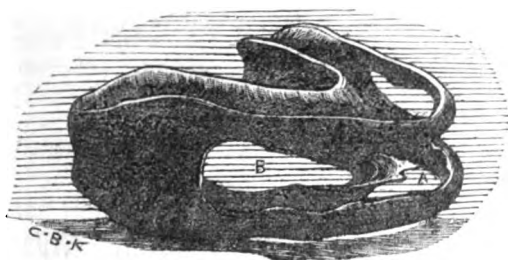
It is formed of a piece of wire bent so as to embrace the teeth on the lingual and labial aspect. A thinner piece of the same metal or of silver is passed between the teeth so as to fasten both outer and inner wires together, thus forming a splint for which the following advantages may be claimed. It is very effective in single and double compound fractures, for it affords complete immobility to the fragments, while its bulk is small, and the patient can open and close his mouth at will. This is important, as it permits that essential in the successful treatment of fractures—cleanliness; and mastication of soft food may be permitted. Bandages can be dispensed with, and an in-patient be converted into an out-patient if necessary.

As to the respective merits of external and interdental splints little can be said, for so much depends on the situation of the fracture. It may be asserted that where an external bandage can be dispensed with it would be advisable. As regards the combination known as the four-tailed bandage and gutta-percha splint it should be discarded altogether, for its advantages are capped by its demerits;—it is so hot to the patient, so unwieldy and so unclean.

Its indiscriminate use tends to perpetuate deformity. There is a bandage which appears to answer all the purposes of a gutta-percha splint with none of its inconvenience. It is composed of two straps, one passing underneath the chin to the head, and another round the forehead to the occiput, and these are sewn together at each temple. They are fastened together by a cross strap following the line of the parietal suture. There is one somewhat similar, but more elaborate, containing a cup for the chin to rest in, and which was invented by Mr. Hamilton; but the former is almost the same as that used for retaining dressings near the eye in ophthalmic surgery, and is certainly quite effective. It was applied in all the cases detailed further on where a bandage was required.

There are cases of compound fracture of the lower jaw where the displacement is so great that it is impossible to

reduce the fragments into position without the aid of a particularly formed splint, so as to meet the exigencies of the case; and it is in these that the vulcanised india rubber is useful, for its capability of being moulded to any form renders it of valuable service. There is one splint made of this material which is deserving of notice. It is somewhat similar to one invented by Mr. Gunning, and consists of two parts, one of which is made to fit to the upper and the other to the lower jaw. These are joined together by vulcanite, a space being left in front between them, and as far back as the first bicuspid, to admit of the passage of food. The advantage in this splint consists in that we have



Vulcanite Splint used in Case 1.

A A. Spaces for upper and lower jaws. B. For the passage of food.

a firm base to which we can attach the fragments of the fractured lower jaw, and it can also be used in edentulous cases.

For the notes of the following cases I am principally indebted to the surgical registrars:

CASE 1.—Harriet Wilson, æt. 10, admitted to the hospital on August 1st, 1875, under the care of Mr. Smith. The history of the case is that she jumped or fell out of a window on the second floor, and in falling struck her chin against some stone steps. She sustained a double compound comminuted fracture, situated between the permanent lateral incisors and temporary canines on either side. The bone was splintered in several places, and some teeth were lost; there was a severe wound, contused and lacerated, situated below the chin, also severe hæmorrhage from the mouth and wound. The child was much blanched and in pain.

August 3rd.—Breath was most offensive, and there was also an offensive sanious discharge from the mouth. No further hæmorrhage had taken place. At the time of the accident a large piece of bone was removed through the chin.

On the 28th a vulcanite splint was inserted into the mouth, covering the posterior fragments, and an opening made in front to permit the anterior fragment to pass through and be fastened to the splint by wire.

No bandage whatever could be applied to the chin on account of the severe wound at that part. There was a constant discharge of pus mixed with saliva.

The progress of this case was slow. She became an out-patient on 13th September. When she left the hospital there was a space of half an inch between the upper and lower incisors.

The last time this patient was seen was in May, 1877, twenty months after the accident. There was then not the slightest deformity, and the upper and lower teeth had approximated to such a degree that the upper row overhung the lower.

(To be continued.)

Dental News and Critical Reports.

ODONTO-CHIRURGICAL SOCIETY.

ORDINARY MEETING, NOVEMBER 13TH, 1879.

WALTER CAMPBELL, Esq., L.D.S., President, in the Chair.

THE minutes of the Annual Meeting having been read and approved of,

The following gentleman was proposed for Membership of the Society :—Mr. Octavius Annesley Fox, L.D.S. Eng. (Brighton).

THE PRESIDENT then opened the Session, and said :

Gentlemen,—Permit me to thank you for the honour you have done me in electing me to the Presidential Chair of this Society. Believe me, I fully appreciate the confidence reposed in me, and will exert my utmost endeavour to faithfully fulfil the duties belonging to the office in such a manner that when my term of service is over, the condition of the Society will have progressed, at least in proportion to what it has done in past years.

With many shortcomings I feel conscious of possessing at least one qualification for the office—that is, love for our profession and the desire to further its interests in every possible way, especially the interests of our Society. Since

its commencement few meetings have been held without my being present, and I have admired the harmony which has ever prevailed, and the ready support given, not only by the Council, but by the members generally, to the President. Feeling, therefore, that I could draw largely on your forbearance and support in maintaining the interest which has ever characterised our meetings, I had the less hesitation in accepting this honorable office.

Without boasting, gentlemen, I think we may congratulate ourselves on the steady advancement of our Society. I will not attempt to trace its progress from its institution till now; suffice it to say that our members are steadily increasing, although it is much to be regretted some still stand aloof from us whose presence with us would certainly be to their and our mutual benefit.

Our finances are in a satisfactory condition, and we have in no little measure fulfilled the objects for which the Society was formed.

Our papers have ranged over and even beyond the wide field of our specialty, and have been of the most practical kind; and the discussions which followed have helped to weed out the self-conceit which so frequently results from isolation. Our casual communications have been deeply interesting; but from our conversational meetings I have no hesitation in saying we have derived the greatest benefit. If we have not enlightened the world of Dental practitioners, we have at least ourselves been benefited, and our patients have reaped the rich fruit of our mutual intercourse. We have learned from these discussions the advantages and disadvantages of the different modes of practice; of the substances in use for medication; the various materials in use for filling, their uses and value; also concerning the instruments and appliances, ever increasing in efficiency, which enable us to complete with comparative ease operations which, not many years ago, we would not so readily have undertaken.

While speaking of the advantages to be gained from a mutual exchange of ideas, I would urge upon members the desirability of bringing any object of interest occurring in practice before the notice of the Society, even when they are doubtful of the importance of the case. Unquestionably some advantage is gained by reading our Reports, but it is small indeed compared with the good derived from being present at our meetings. I am satisfied that the most valuable ideas and practical hints are often spoken in an offhand manner in discussion at our conversational meetings, and seldom reported. We should bear in mind that

our object in meeting together is not so much to benefit the Dental world, nor to appear well in print, but to benefit the members of our Society, and especially those who may be present. I have heard it said that some of us keep away from our meetings because they are expected to write out what they may say for our 'Transactions,' which afterwards appears in the Dental journals. Now, I think you will agree with me that no one should feel under any obligation in this respect, but be at perfect liberty to write out his remarks or not as he may feel disposed. Unfortunately—and I speak for myself—we have not all the pen of a ready writer, and it is often irksome to men in active practice to recall with anything like accuracy what may have been said on the spur of the moment when interested in a discussion. I have no doubt the time may soon come when we will have a reporter, whose duty it will be to record all that is said at our meetings. But, in the meantime, I repeat, members should feel under no obligation to write out their remarks. Undoubtedly to speak in print is to speak to readers of all sorts; but that which is of the first importance is to induce as many members as possible to attend the meetings—they only occupy five evenings in the year, and to express their opinions freely. Increased numbers will make the meetings correspondingly interesting, and we will the sooner acquire that confidence in speaking which comes only by practice. I trust all of us will make an effort to maintain and add to the usefulness of the Society; in doing so we will only give a small return for the many advantages derived from Dental organisations, not the least of these being the bringing many of us, before personally unknown to each other, into agreeable and friendly intercourse.

Without discussing the various causes by which Dentistry has reached its present standard of excellence, I am certain there are few but who will admit that Dental societies have had a good deal to do with it; and I cannot understand the condition of mind of those who take advantage of all that can be learned from reports of Dental societies, and yet who not only withhold their mite of knowledge and their presence, but also their annual money contribution.

Our profession has benefited more than many by society organisation. Since the formation of the Odontological Society in January, 1857, only twenty-two years ago, it has advanced with rapid strides. To the Odontological Society, and in a lesser measure to our own, the profession is indebted for the passing of the Dentists Act and the formation of the Edinburgh Dental Hospital and School; for by their

means those gentlemen were brought together from whom emanated that powerful impulse which broke down every barrier to Dental progress.

We in the North can lay no claim to the honour of initiating this movement which resulted in the passing of that Act. The wave of influence set in from the South; fortunately it found an organisation in the Odonto-Chirurgical Society of Scotland, whose members, from their friendly relations with each other, were willing and ready to combine in any movement likely to advance the interests of the profession. By *their* efforts the conference of Dentists was held in St. Andrew Square of this city, in October, 1877—admitted to be one of the most influential, the most unanimous, of any similar meeting yet held in the cause of Dental progress; for at this meeting not only were resolutions passed in favour of the movement, but that committee was appointed by whose efforts the Edinburgh Dental Hospital and School was formed. Although its formal inauguration, under most happy and fortunate auspices, had only taken place a fortnight ago, the Hospital has practically been in active operation and full development since February last.

And now, gentlemen, we may congratulate ourselves on the possession of these comfortable and commodious premises, and in the combination of Dental School, Hospital, and Society in one building. This combination is not an experiment; we have in this as in many things followed the example of the Odontological Society of Great Britain.

We have seen in Soho Square, and also in Leicester Square, London, the successful working of this combination; and we have every reason to hope that the same good results, in proportion, will follow the newly founded institution in Chambers Street.

We have at length the long-wished-for accommodation for our Museum, the nucleus of which is already in the hands of our excellent curator, and will soon be tabulated. A good Museum, which I feel certain we shall soon possess, will lend no little attraction to our meetings; and I trust, in addition to this, we shall soon add a Library.

While it is quite true that the Society does not exist for the benefit of the School, yet so long as the two are so closely associated the one cannot but be a benefit to the other; and I have no doubt both the Museum and Library, under appropriate regulations, will be open to the students.

With your permission, gentlemen, I will be glad to present a few volumes in Dental literature to make a beginning, to which I have no doubt other members will readily add. Should this be entertained, we might consider the advisa-

bility of procuring two or three of the leading Dental journals, and Transactions of other societies. But if this be thought too heavy a tax on our funds, a book club might be formed, consisting of members and students ; the books and journals, after a certain time, to be handed over to the Library.

I cannot close without offering a few brief remarks on the changed condition of Dental education by the passing of the Dentists Act. That this change will work for the benefit of humanity there cannot be a doubt ; already good results are showing themselves. In Scotland alone two Dental schools have been opened, each having a sufficient staff of lecturers of whom we are justly proud ; and the student will be fortunate who is privileged to come under their instruction.

The recent Act, although imperative only in the United Kingdom, is already making its influence felt not only on the Continent of Europe, but also in the United States. Although the Dentists of America were the pioneers in this good work, they are coming to feel keenly the weak points in their educational system. In America, under their defective method, as with ourselves, many Dentists trained or educated themselves to a high standard of excellence ; but by far the greater majority have had no Dental education worthy of the name. With us this condition of things has taken end, other countries must follow our example, and have their educational code raised to the same standard and made compulsory, if Dental Surgery is to progress among them. The influence of our educational movement has already crossed the Atlantic, and through the pages of the 'Cosmos' we learn that our brethren there are anxiously moving in the same direction.

Unfortunately in this country the door is shut against the graduates of the Transatlantic Dental colleges. This barrier, doubtless, will soon be broken by compulsory education becoming law in the United States. Nothing short of this will enable the Dental colleges to enact such educational statutes as will place their graduates on an equal footing with those of this country. The necessity of compulsory education is felt in America even more than it has been with us. The wholesale extraction of teeth in this country is enormous, but in America, I understand, it is much greater. The only cure for this is an increased number of qualified practitioners having the *imprimatur* of a legal board of examiners ; and to prepare students for this we must have a sufficient number of Dental schools.

The 'Dental Register,' which we are all delighted to possess, is enough to alarm students ; for the number of names

on that Register imply that there are many more Dentists in practice in this country in proportion to the population than in America, where Dentistry is so much more in demand. It is a well-ascertained fact, however, that many of those names do not represent Dentists in *bonâ fide* practice, and will necessarily have to be erased. The clause in the Dentists Act, stating who may be placed on the Register, is clear and well defined, and we may rest assured that the Medical Council, aided by the British Dental Association, will act justly in the matter.

If I had the ear of Dental students, or intending students, I would say to them that, as far as I can judge, they may prosecute their studies with every confidence that by the time they are duly qualified their services will be in demand.

It is much to be regretted that the necessity for Dental skill is so greatly on the increase; but while humanity remains in its present condition, with its love of luxury and pleasure, and all the concomitants of what is usually called civilisation, it is more than likely to continue. But that medical science will ever lend much aid to nature in the structure of the teeth previous to their eruption I do not believe, except in so far as the enforcement of hygienic laws comes under that term. But the assistance which the duly qualified Dental surgeon can bring to aid in the preservation of the teeth after their eruption we know is great, and the facilities for this are growing every day.

In this, as in every other country, there is a large field for the practice of conservative Dentistry, as yet without cultivation. I refer to that large class of the community who are quite able to give a fair fee for conservative Dentistry, but who are almost totally ignorant of what can be done for the saving of the teeth. They will be too glad to learn and ready to take advantage of the help which modern Dentistry can bring them. Thanks to those reformers by whose united energy and zeal this new condition of things has been brought about.

I fear, gentlemen, I may have taxed your patience, but having such a plethora of subjects to speak upon I could easily have said more, but with difficulty less.

A vote of thanks to the President for his address was given on the proposal of Mr. D. HEPBURN, seconded by Mr. MACLEOD.

The discussion on Dr. Williamson's paper, "On Retarded Eruption," read at last meeting, was begun by—

Mr. D. HEPBURN, who thought the subject a deeply interesting one, but one which did not leave much room for

discussion. The cases exhibited by Dr. Williamson and others all showed teeth imbedded in the alveoli, their abnormal positions quite accounting for their non-eruption at the right time and place; but they were still quite in the dark as to the cause which induced such conditions. Some cases of the more simple kind were clearly traceable to want of space arising from contracted maxillæ; but others were not to be explained in this way: such a one he now exhibited, and it was by no means of an unusual character. It showed an upper right canine lying in an horizontal position in the ridge of the alveolus; its crown, the distal side exposed, must have lain directly above the apices of the roots of the central and lateral incisors, where it lay hidden until the loss of these teeth, and the consequent absorption of the alveoli revealed its presence. The tooth was affected with caries, was painful, and he had extracted it. He would now hand it over with the model to their curator as a small addition to their museum. There was another class of cases somewhat analogous to those under consideration; he alluded to edentulous or partly edentulous ones. He did not remember to have seen any preparations illustrative of such, and would be glad to know if any of the other members had. It would be interesting to know whether nature had made any effort to produce the missing teeth, and, if so, at what stage the process had been arrested. This could only be shown by making sections of jaws in which such conditions obtain, and these, we know, are comparatively rare, and must be difficult to acquire. He thought many neuralgic affections proceeded from the retarded eruption of the teeth.

Mr. CHISHOLM said: Two cases, having a strong bearing on the discussion of this subject, "Retarded Eruption," have recurred to my recollection.

1st case.—Lady, æt. 50, who has been under the observation of my father and myself for fully twenty years. During this period she has worn an artificial denture. About three years ago the old case became useless owing to the eruption of the upper canine teeth. In the new case space had to be left to accommodate them; and when last I saw the patient they were fully half erupted.

2nd case.—A congenital peculiarity occurring with my father and myself. My father retained his left upper temporary canine until about three years ago. I retain the same tooth still. In his case there has been no apparent attempt on the part of nature to reproduce the permanent tooth, nor has any inconvenience or pain resulted from its retarded eruption. My own case, up to the present, is run-

ning a similar course. I retain the tooth, which is perfectly firm and useful, but have, as yet, felt no symptoms of the existence of the permanent tooth.

Mr. WILSON said that cases of retention of some of the temporary series till well on in life were not uncommon. He had met with several cases of the eruption of *canines* after the jaws were apparently edentulous, and had been so for some time.

Many causes might be given for the non-appearance of these teeth; the difficulty was to make out what had led to their eruption after such long delay.

He showed a skull in which one of the canines was lying horizontally in the jaw, above the level of the roots of the incisor teeth. The whole tooth, root and crown, was fully developed, and its eruption seemed an utter impossibility.

After some remarks from Mr. W. B. MACLEOD—

The PRESIDENT said there was not much room for discussion, as the causes of retarded eruption of the teeth were remote. He quite agreed with Dr. Kingsley's remarks, lately reported in the 'Cosmos,' that precocity in childhood was frequently accompanied with early eruption of the permanent teeth, though the physical system generally was retarded. Last week he had a girl, just over ten years—very precocious—with twenty-eight teeth fully erupted. He believed the eruption of teeth might occasionally be accelerated by mechanical appliances. He had treated two cases in this manner, which had been previously brought before the notice of the Society. Both cases were very much alike. All the teeth were fully developed, except the lower bicuspid, which gave no evidence of being present. A gold plate, with metal blocks to antagonise with the upper teeth, was in each case worn for some months, which had the desired effect of accelerating the eruption of the bicuspid. Another case he mentioned was that of a young lady, aged about twenty-two, who consulted him three years ago. Her teeth were quite regular, except that the right upper central incisor was about one eighth of an inch shorter than its neighbours. After explaining the risks, he drew it slowly down to a level with the others. He saw the patient last week, and there was no apparent difference between the tooth operated upon and the others.

The discussion was closed by a few remarks from Dr. WILLIAMSON.

The SECRETARY then exhibited, through the favour of S. J. Hutchinson, Esq., L.D.S., M.R.C.S. Lond., Dr. Richmond's Spring Mallet; Johnston Brothers' new Instruments, and also an improved Clip for the Rubber-dam.

The Secretary was instructed to convey the thanks of the Society to Mr. Hutchinson.

Mr. MACLEOD exhibited and presented to the Society's Museum a beautiful fossil Shark's Tooth, of large size; also a section of a molar of the Asiatic Elephant.

Mr. WILSON, through favour of the gentlemen for whom it had been made, then presented to the Museum the Maxillary Splint made by him in 1864 for the successful case of excision of the tongue by the late Professor Syme. The lower maxilla had been divided at the symphysis, and the splint had answered its purpose thoroughly.

He had seen the patient a few weeks ago, and was surprised to find him able to speak very well—in fact, much more distinctly than in cleft palate cases.

As bearing on the discussion at a late meeting of the Odontological Society, he might mention that, although minus the tongue, the patient still retained the sense of taste, a conclusive proof in favour of the glosso-pharyngeal's claims to be the special nerve of taste.

Mr. G. W. WATSON laid on the table a considerable number of contributions to the Society's Museum, received in answer to the circular he had sent out, as instructed at the Annual Meeting.

It was arranged that the next meeting, which fell on Thursday 11th December, should be a conversational one.

A vote of thanks to the Chair, proposed by Mr. CORMACK, closed the meeting.

THE third meeting of the Session will be held in the Dental Hospital, 30, Chambers Street, Edinburgh, on the evening of Thursday, the 8th of January, at half-past seven o'clock. W. Campbell, Esq., L.D.S., President, in the chair.

The following gentlemen have been proposed for membership by Mr. W. B. Macleod, L.D.S., seconded by Mr. J. B. Chisholm:—Messrs. James Macintosh and Richard Cobden-Macintosh, Edinburgh.

Notice of the following motions to be brought before the Annual Meeting was given in at last meeting, as required by the constitution.

1st.—Proposed by Mr. Campbell, L.D.S., seconded by Mr. W. B. Macleod, L.D.S.—“That steps be taken to form a Library, and that some of the Medical and Dental Journals be kept lying in the room, which would be open to members as a reading room, one evening each week during the Session.”

2nd.—Proposed by Mr. A. Wilson, L.D.S., seconded by Mr. G. W. Watson, L.D.S.—“That the members be divided

into two classes—resident and non-resident. The former to consist of those resident in Edinburgh and Leith, and that the resident members agree to raise their annual subscription to One Guinea.”

Mr. Octavius Annesley Fox, Esq., L.D.S. Eng. (Brighton), will be balloted for as a member.

Council meet at 7 p.m.

OPENING OF THE EDINBURGH DENTAL HOSPITAL AND SCHOOL.

THE following full report of the speeches of Mr. Imlach and Dr. Smith has been sent us by Mr. Chisholm for publication. A short account was given in our last issue, but we are sure many of our readers will enjoy this more detailed account.—[Ed. B. J. D. S.]

The new Edinburgh Dental Hospital and School was formally inaugurated on October 30th, within the Medical School, Minto House, Chambers Street. The Lord Provost; Lord Rosebery; Dr. Peddie, P.R.C.P.E.; Mr. David Dickson, Master of the Merchant Company; Mr. John Cook, W.S.; Dr. Handyside; Dr. Charles Bell; Dr. Keiller; Dr. Bruce; Dr. Dycer; Councillor Clapperton; Councillor Turnbull; Mr. Bowman Macleod, L.D.S.; Mr. Andrew Wilson, L.D.S.; Dr. Chisholm, L.D.S., &c. Apologies were intimated from Mr. Duncan McLaren, M.P.; Mr. Grant, M.P.; Rev. Dr. Macgregor; Dr. Zeigler, &c.

The LORD PROVOST congratulated those present on the success they had had in completing the arrangements connected with the hospital, in having added this to the medical teaching institutions of this city, and in having secured such an efficient medical staff. He had much pleasure in introducing to them Mr. Imlach, the first President of the Royal College of Surgeons elected from the ranks of the Dental profession.

MY LORD PROVOST AND GENTLEMEN,—It is with the greatest pleasure that I have this day the honour of being present at the opening of the Edinburgh School of Dentistry. For many years the members of the Dental profession have been individually struggling to do what was in their power to raise the educational standard of their members, but those of you who have been so long connected with it, as I

have been, know how hopeless it seemed to be some thirty or forty years ago; certainly even at that time we had several men included in our profession who by their position and high attainments gave hopes of a brighter era for the whole body, but their efforts were without coherence, and the general public themselves were indifferent and unaware of the great benefit which could be derived from a more scientifically educated body of practitioners of Dentistry. I would make mention of such men as Cartwright, Tomes, and Nasmyth in London, Brewster in Paris, and our own Nasmyth and Hardy in this city, the two last of whom I may add were Fellows of our College of Surgeons, and many others who struggled manfully against the difficulties of their position and the then imperfect state of the profession. To these gentlemen we are indebted for the general awakening to the great importance of a regularly educated and licensed body of Dental practitioners, for, at the time I speak of, any one might practise Dentistry, and to the irresponsible and uneducated practitioner it opened a wide field for every kind of quackery, which, I am sorry to say, was in some of our larger towns taken advantage of to a considerable extent. The change which has taken place in the practice of the profession since that time is, I may say, even greater than what has taken place in any other branch of surgery. The rough manner in which many of the operations used to be performed was so dreaded that it was only from the direst necessity that a visit was ever paid to the Dentist; now, both from the improved instruments and the introduction of anæsthetics, that state of matters is much changed; the minor operations on the mouth were also of such a temporary nature that the practitioner himself had little hopes of being able to afford permanent benefit, and therefore often resorted to the ultimate operation of extraction, where now that alternative would never be thought of. The mechanical appliances for replacing teeth were even in a more crude state; the material employed was usually of the most unsuitable description, and sometimes even objectionable. French Dentists were certainly for many years struggling as far as possible to correct this state of matters, but their efforts, though theoretically good, were of little practical value. It is to a gentleman of this city that we are greatly indebted for efforts made to improve this state of matters, and most successful he was for his time—I mean Mr. Hogue, the father of one of your Dental examiners. To the American Dentists we are mainly indebted for the first great improvements which took place in the mechanical branch of the profession. I may add it is to them we owe several of

the improvements which are in vogue at the present day; this I attribute, in a great measure, to their having begun before ourselves to have educational colleges for their young practitioner, but we are now, I am happy to say, well up to them in the race of mechanical knowledge, and at present, even with our limited opportunities, outstripping them in some other branches of Dentistry. I am, therefore, fully confident that the rising generation of Dentists will, in this country, by the increased facilities afforded them, be as prominent in their branch of surgery as men in the other branches of it already are, of whom we are justly proud. The necessity of a thorough medical and surgical education for fully qualifying a Dental practitioner I hold to be quite essential to the right practising of the profession; unless the student is not educated he is quite unable to account for the great changes which take place in the dental textures from various diseases affecting the patients, to account, for example, and counteract, the great destruction of texture such as takes place during certain fevers and cold, where the secretions become so changed as seriously to affect the teeth. Dietetics I hold to be a branch of education which should be most carefully studied by the Dental practitioner, as it is to the want of due care in regard to the diet and the right assimilation of the food that a vast number of cases falling under the observation of Dentists are due. Chemistry is also another most essential branch of study for the knowledge of the best method of preserving the dental textures from decomposition; and when we reflect that the enamel is a natural material readily acted upon by acids, it can be seen how easily and rapidly this can be destroyed by substances and fluids inimical to its structure; and not only to the due consideration of the dental textures is chemistry necessary, but to the practice of the mechanical part of the profession is it equally so; in fact, in every phase of practice the necessity of thorough chemical knowledge is essential to the practitioner to combat the difficulties constantly occurring in the course of his practice. Permit me also to point to the need of anatomical knowledge, which is so self-evident that I shall only mention it and not detain you longer with any further reason why the necessity of a school for the education of Dentists should have this day taken the form of a reality, and that now we can offer to the Dental student, and I may say to the general practitioner also, the opportunity of a thorough education, fitting them to take rank in one of the most useful branches of surgical practice. The first attempt to attain this object in Edinburgh was a course of lectures on Dentistry by Dr. John Smith, who for

some years held a class for that object in Surgeons' Square. I do not require to inform you that it was everything that could be desired for the purpose for which it was intended, and that the long experience and scientific attainments of that gentleman rendered it in the highest degree efficient for the purpose aimed at. It was attended by students who were taking the full surgical and medical diploma, and who anticipated being settled in parts of the world where there were no special practitioners. We allowed a few students also to attend at the residence and see the practice of several of the gentlemen practising Dentistry in this city, but the short time the students usually had to devote to this was of little practical value, the subject being so extensive and the necessary training so severe; it showed, however, that there was a growing wish for future opportunities of special instruction. Another effort made by the Dental specialists was to institute a dispensary for diseases of the teeth. It was opened in Drummond Street, opposite the University. This movement was a success, in so far that the public took advantage of the gratuitous attendance offered to them by surgical officers. The first staff consisted of Mr. Nasmyth, Dr. Smith, Dr. Orphoot, and myself, each of us by rotation attending at the dispensary in the morning and performing the necessary operations. Students, however, who were attending the various dispensaries throughout the town, were in general satisfied with the practice they got there in minor operations, and did not to any extent avail themselves of the opportunity of instruction offered. But on the removal of the dispensary to Cockburn Street, where it has been for some years, the state of things greatly improved; both medical officers, students, and patients increased in a gratifying way. The educational opportunities for the profession were in this state when the Dental Act passed and came into operation. Now no one can practise Dentistry without being first placed on the Dental Register, and he can only attain this by going through a complete curriculum after having passed a regular Board of Examiners, formed partly of Fellows of the Royal College of Surgeons and partly of special Dental practitioners licensed to lecture and examine by the Royal College of Surgeons. It is easy to see what a great benefit this will be to both the public and to the practitioner himself. To the public it will guarantee that the Dental practitioner shall be fully qualified to treat both surgically and mechanically the various cases which come under his notice, and to the practitioner himself it will ensure the certainty that after the long and arduous course of study he has gone through in order to acquire the various qualifica-

tions for practising his profession, that he shall be protected from the competition of unqualified men, and take rank as practising one of the most useful branches of surgery. I shall now leave it to Dr. Smith to give you a full statement of the gradual progress of the movement, as it is in a great measure to his unwearied exertions in this cause that we now see our hopes realised, and that I have this day the pleasure of opening the Edinburgh School of Dentistry.

Dr. SMITH said he had much pleasure in acceding to Mr. Imlach's request that he should give a *résumé* of what has been done in Edinburgh in the way of Dental reform. No one knew better than he did the difficulties that had to be met and overcome in accomplishing this object, and no one lamented more than he did the time it took to effect such an end. Dental reform, as it has been called, might be said to have assumed an effective character in Edinburgh only within the last quarter of a century; previous to that time many efforts had been made both here and elsewhere towards advancing the profession and raising it from the position it unfortunately had occupied so long, and these endeavours undoubtedly deserved to be mentioned here with all credit. In England, Mr. Waite's pamphlet on Dental Reform had been published as early as 1841, and from that time up to the granting of the Dental Diploma by the Royal College of Surgeons of England in 1860, memorials on the necessity of recognising Dentistry in the proposed measures for medical reform had been frequently before Parliament and the College of Surgeons, and at this time an active part in these movements was taken by our townsman, Dr. Robert Reid. The College of Dentists of England had been instituted, and the Odontological Society founded in 1856. In 1858 the Dental Hospital of London had been opened in Soho Square, and the Dental Diploma was first granted in 1860. But while London had been working for such ends, Edinburgh had not been idle. Twenty-three years ago the first course of lectures on Dental Anatomy and Surgery, ever recognised as associated with the classes of the Edinburgh Medical School, had been delivered by himself at Surgeons' Hall, where it was a summer course for several years, and attended sometimes by upwards of 60 pupils. Previous to this course of lectures being repeated for the second time, in 1857, Dr. Smith felt it to be most desirable to provide some practical as well as theoretical teaching to students, and with this view I proposed to the managers of the Royal Dispensary to institute a course of instruction in Dental Surgery, separate from the practice of the laboratory. This the managers resolved to put to the test of experiment, and I

had the honour of being appointed as Dental Surgeon to the institution, a proceeding which led to the formation of the Edinburgh Dental Dispensary—the precursor of the Dental Hospital. It was found that the teaching of Dental Surgery in the dispensary was difficult to separate from the laboratory, as it would involve a separate hour of attendance, and diminish the attractions of that department to some extent; and seeing this, and knowing that the Dental Hospital of London had now been opened in Soho Square, I obtained the support of Mr. Nasmyth, Mr. Imlach, and Dr. Orphoot, and the Dental Dispensary was opened in Drummond Street in 1860. From there it was removed to Cockburn Street in 1862, and entered upon its later premises there in 1863, under the management of Dr. Burt, Benjamin Bell, Profs. Christison, Goodsir, and Syme, Drs. Begbie, Simson, James Duncan, Spence, Ormond, Craigie, and Alexander, Lord Neaves, and Richard Gordon of Holnryes. The existence of this institution during the eighteen years 1860—1878 was the means not only of doing much service in Dental diseases, but had served to bring the Dental profession together, and constituted a bond of union among them in a way altogether unknown before—a circumstance conducing very much to the prosperity and success of any such movement as that which soon affected the profession at large. In this way the Odonto-Chirurgical Society was first proposed at the Dental Dispensary in 1865, and carried into effect some years afterwards, under a slight modification in its original laws. In 1877 the Dental Reform Committee of London met in Leicester Square, when it was resolved, and issued to the profession, that under the power given by the Dental Clause No. 48 of the Medical Act of 1858, to the College of Surgeons of England, only those possessing the Dental Licence of that College should be entitled to designate themselves as Dentists, or to act as such, or to receive fees for Dental operations. The monopoly here implied was pointed out in the various medical journals and in a letter by myself to the Reform Committee on behalf of the Edinburgh College. These, with other communications to the same effect, seemed to lead to a wider provision being proposed for obtaining Dental qualifications, and accordingly in October a meeting in Edinburgh was held of the Dental practitioners of Scotland, at which many from England also attended, and a committee was appointed to assist and to facilitate the advance of Dental reform, which was designated the Scottish Dental Educational Committee. A sub-committee was also formed with the same objects, and in all their very numerous meetings a unity of purpose and a dis-

interested and harmonious feeling prevailed, such as is seldom to be found in assemblages of professional brethren. No small amount of time was given and no little amount of work done at these meetings, and a debt of much gratitude is due to Messrs. Macleod, Hepburn, William Roberts, Chisholm, Finlayson, Matthews, MacGregor, Cormack, and others, for the valuable services they rendered in this way. Matters, as might have been expected, proceeded favorably, and the Dental Act passed, conferring upon the Edinburgh College, among others, the power of granting a licence in Dental Surgery. And now that the College had accepted this power, and issued a curriculum of study, the Dental Hospital and School became a necessity. It was at first proposed that the old Dental Dispensary should extend its teaching and its premises to meet this want; and it was subsequently thought better to have a new school, and to reorganise the whole system of Dental attendance and instruction, and as it would have been injudicious to have two similar institutions with competing and conflicting interests, it was arranged by mutual consent that the old dispensary should be closed, and be merged in the New Dental Hospital and School; that every support and encouragement should be concentrated in upholding the new institution; and that the meetings of the Odonto-Chirurgical Society, and other assemblages connected with the profession, should take place there, as the headquarters of Dental Surgery in Scotland.

In a letter addressed to the Royal College of Surgeons of Edinburgh by Dr. Smith in 1858, urging Dental Surgery to be granted a place in the teaching of the different medical schools, he had concluded by stating his conviction that at no distant period such objects would be favorably regarded, and ultimately obtained; and he had now the gratification of seeing such prognostications and aspirations fully realised.

On the motion of Dr. PEDDIE, P.R.C.P.E., a vote of thanks was given to Mr. Imlach for his address.

Lord ROSEBERRY, President of the Dental Hospital and School, proposed a vote of thanks to the Lord Provost for presiding. He said he was exceedingly glad to be present at the inauguration of this useful institution. When he was invited last year to take the post of president, he undertook that charge on the understanding that his name might be of some use to the association, and, he fancied, on the very distinct understanding that he should have no professional duties to undertake. While he had been very glad to be present in his official position, he had also been extraordinarily interested by the remarks of Mr. Imlach. It would not be a compliment to him, perhaps, to say that he had

never spent so long a time with a gentleman versed in Dentistry with so much pleasure as he had that day. It was not very easy for any one who only knew of the passive and unfortunate part of the Dentistry which most of them were acquainted with to say much on this painful subject, but the President of the College of Surgeons had alluded to the question of dietetics, and he would like to ask him one question. They had all observed the beautiful teeth sailors had, or appeared to have, for some said they were more beautiful by contrast than in reality. Might that not proceed from the monotonous character of their diet? Another remark which had been made was that in some parts of Dental practice they had already outstripped the Americans. Well, it was his impression that the Americans were more or less ahead of them in this, and certainly some Americans complained that they could not get the instruments in England which they wished to use. In America they carried the practice to an alarming extent. They would not part with the remotest shadow of a tooth as long as there was anything to swear by. In America they would see mouths which presented nothing to them but a solid mass of gold with a faint tinge of enamel over the yellow metal. At the same time the American Dentists had difficulties to contend with which he hoped their Dentists had not. The practice of chewing was very prevalent in America and could not but be injurious to the teeth. He believed the practice was dying out in Scotland, but he had seen an American take a handful of tobacco out of his pocket and cram it into his mouth as if it were food.

Mr. D. HERBURN, in seconding the vote of thanks to the chair, said he had much pleasure in supporting the resolution proposed by Lord Rosebery, as he knew it to be in accord with the feeling of all present. Knowing the deep and active interest which the Lord Provost had taken in the various charities connected with the city, "notably the Infirmary, which must ever remain a monument to his lordship's energy and zeal," the Committee felt that his presence in the chair on this occasion must materially affect for good the interests of the Edinburgh Dental Hospital and School, and he had no doubt that it would do so. Though the sphere of their labours at the hospital was comparatively limited, the work done was not the less effective in reducing and arresting human suffering, and if the diseases treated were not often of a fatal character, the suffering was not the less intense, and was so universal that toothache in one or other of its forms might with truth be said to be the "painful heritage of man." Mr. Imlach had shown that this

institution also supplied a long-desired and much-needed want, a training school for Dental students, where they will be educated in the specialities of what is to be their life-work, and thus fitted to enter upon the practice of their profession with confidence in themselves and with manifest advantage to their patients. When the public, my lord, come to realise the fact, "and it is one to which it requires still to be educated up," that the benefits flowing from the Dental Hospital and School are not confined to the poor only, but rich and poor alike, directly and indirectly, share in the advantages it is so well fitted to yield; when it realises this fact, I feel sure that both the lists of our subscribers and the amounts subscribed will be largely increased. So far our efforts in that direction have been rather disappointing, for we have been mainly indebted, "with some notable exceptions," for the means to carry on the work to members of the profession in England, Ireland, and Scotland. This should not be so. Edinburgh is quite able to support such an institution, and will doubtless do so when its claims are brought more prominently and clearly before her citizens. I have much pleasure in seconding the resolution.

The motion was carried with acclamation, and the proceedings terminated.

THE GLASGOW SCHOOL OF DENTAL SURGERY AND DENTAL HOSPITAL.

(Communicated.)

THAT the brief notice which appeared in the leading article of the late number of this Journal respecting the foundation of the above school and hospital does not convey an accurate impression in regard to their organisation and establishment is due simply to the fact that the story of this movement in Glasgow has not yet been publicly told, and that the chief actors in the movement were not Dentists, nor were they men coming in contact with Dental journals. That no such notice has as yet appeared may be explained by the fact that so much of the work in connection with the movement fell to the lot of those Dentists who were called upon to aid the founders in their project, and whose energies were so fully employed in meeting the demands successively made upon them, that time failed them for the performance of much that might have been of benefit to the new institutions, and at the same time interesting to the readers of this Journal.

For the sake of accuracy, and from the interest attaching to the movement, a brief statement of the steps which have resulted in the formation of these institutions—by one actively engaged throughout—may be acceptable to the readers of the 'British Journal of Dental Science.'

This movement may be said to have had its beginning in a letter written at the request of a member of the Medical Faculty of Anderson's College, to enable the managers of that institution to determine to what extent existing arrangements could be made available for such a purpose, and what further provisions would have to be made. The writer of the letter having been called upon to look over the accommodation available, and finding it admirably suited for the purpose, the subject was then formally placed before the medical faculty for their consideration. After due investigation it was agreed to recommend the managers to add to the existing departments a Dental section. The matter was then taken up by the management, lecturers were appointed for the special Dental subjects, and the class rooms being already fitted up ready for occupation, the lecturers were able at once to enter upon their work. As the teaching of Dental surgery could not be conducted without a Dental hospital, and as there was nothing equivalent in town, the lecturers accepted office on the understanding that a Dental hospital would also be provided. As the part of Anderson's College Buildings occupied by the Young Chair of Technical Chemistry were shortly afterwards vacated, on the removal of the Technical Chemistry classes to the new buildings provided for them, a most convenient and admirably adapted set of rooms were allocated by the managers to the Dental lecturers, for the purpose of forming a Dental hospital. The rooms having been put in order, and a handsome donation given by the management to provide operating chairs, &c., the Dental hospital was formally opened on the 10th November last.

So much having been done outside the profession for Dental education here, the part taken by the Dental profession has yet to be noticed. The idea of the authorities at Anderson's College being to provide all that was needed—if the subject were undertaken by them at all—it remains only for the Dental profession to take care that the interests of students were duly provided for. Seeing that the profession had no representation in the management of Anderson's College, a meeting of Dentists in Glasgow was called and largely attended, and a committee was formed to represent the Dentists, and to co-operate, if possible, with the management of Anderson's College in the proposed arrangements.

As it proved, the work of this committee was a mere sine-cure. The management of Anderson's College having interpreted the wants of Dental education in a most liberal and friendly spirit left the committee really little or nothing to do, and it ceased to exist immediately after the summer session was entered upon.

It will readily be believed that the details connected with the founding of two such institutions claimed a large amount of attention and personal supervision, and much of this work fell to be performed by the lecturers; but it is only just to the authorities at Anderson's College to say that it is to their zeal for the honour and usefulness of the institution over which they preside, and not to "enterprising Dentists," that Glasgow owes its Dental School and Hospital.

Miscellanea.

OFFICE HINTS,

COLLOQUIALLY GIVEN FOR THOSE WHO LIKE TO READ THEM.

"Justum et tenacem propositi virum."

Gentleness with Good Work.

Verax (loq.).—Bosh!

Tenax (loq.).—Not at all.

V.—Bosh, I tell you, my dear fellow, utter bosh!!

T.—Excuse me, my old friend, but you are talking about things you do not exactly understand.

V.—That's good! Fancy you talking to me like that. Why, any one would think you were my father, or, at any rate, that you were old enough to be so. Instead of which you are an old chum whose acquaintance I made at the Dental Hospital fifteen years ago, pursuing the same studies under the same masters, and with about the same amount of brain-power as myself, and, you know, neither of us were very brilliant.

T.—Quite so; but how about the nature of the animal? You always happy, contented, and satisfied with yourself and your work—I the exact reverse.

V.—Poor fellow! That is true. Ever after some new-fangled dodge or instrument; never satisfied—always trying to learn.

T.—Quite so. I quite agree with you; if you will permit me to add, and always learning.

V.—Well, if you like, and always learning ; although that is neither here nor there, as far as what we were talking about is concerned. What I said I stick to, namely, that it is utter bosh to make gentleness a leading feature in practice ; it simply means failure after failure, until your name for good work is gone.

T.—It simply means that people will regard you as a kind and humane man, and think of you as a friend who has done good service to them, and not look upon you as an ogre. It means that you will have hundreds of teeth to treat that you would never otherwise have. Why, my good friend, when we left our studies and started in private practice, we both practised as we had been taught ; we both held exactly the same notions and ideas. You, in your happy contentment, are now as you were ; I, in my opinion, have progressed, in yours gone back. I cannot call you a bigoted man, because you were ever ready to be convinced, but you certainly are a very lazy man, for you never try to find anything out.

V.—Well, well ! what do you want to convince me of now ?

T.—Gentleness, a leading feature in Dental practice.

V.—Good work for me !

T.—Excuse me, but please let me finish my sentence—combined with good work.

V.—What ! gentleness and good work combined ? Are you— I mean— that is— don't you know, old friend, anything wrong in the top story ? You know—don't you know ?

T.—I think not. Do I look as though there was ?

V.—*Well*—no ! But gentleness and good work. What do you mean ?

T.—I mean that extreme gentleness in handling the mouth and the tooth you are at work on, also a gentle-cheery way of speaking, and also a gentle manner, combined with doing the very best work for your patients that their power of endurance will permit you to do, will place you in the position of doing far more good to suffering humanity than the thoroughly orthodox Dentistry which you and I were so ably taught, and enable you to command a fine and lucrative practice.

V.—Well, as you said, I am not a bigoted man. Ask me to stay with you, and let me see you at work.

T.—Come with pleasure ; no one is more welcome, and, I am sure, seeing, you will believe that gentleness with good work combined is easy.—G. P.

(To be continued.)

APPOINTMENTS.

MR. G. W. WATSON, L.D.S. Ed., has received the recognition of the Royal College of Surgeons of Edinburgh as lecturer on Dental Surgery and Pathology in connection with the Edinburgh Dental Hospital and School.

PUBLIC SPIRIT.

MR. THOMAS FLETCHER, the well-known maker of scientific apparatus, of Museum Street, Warrington, must be a man of considerable public spirit as well as enterprise. From a circular letter he has sent us we learn that a few friends interested in scientific matters have decided to meet every Thursday evening for the winter months, at his house, with the object of discussing new or interesting scientific matters. The meetings will be informal, simply a social gathering of those interested in the progress of science. If the movement is appreciated by a larger number than can conveniently be accommodated the question of forming a scientific club will afterwards be raised. The laboratory will, for the evening, be converted into a smoke room, and any apparatus will be at the service of all. Both these privileges will, we are sure, be largely appreciated. These meetings, Mr. Fletcher is careful to state, will be so arranged as to be little or no cost to himself, and therefore they will, so far as room permits, be open to all interested in matters likely to be brought forward, all being at perfect liberty to come and bring any friends. We heartily wish success to Mr. Fletcher's efforts to foster a love of science in Warrington.—*Nature*.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—I must protest against the analysis published by the sub-committee of the Odontological Society as being that of my porcelain cement. Either the sample analysed never came from me, or the analysis is a gross blunder. This compound is stated to be a pyrophosphate of zinc only. It is, and ever has been, made according to the process specified in my patent, i.e. a paste formed by pyrophosphate of

alumina, with the smallest possible quantity of phosphoric acid which is necessary to make it soluble. The excess of acid is taken up from the paste, when required for use, by the addition of an oxide of zinc so excessively hard as to be practically insoluble in weak reagents. How Mr. Thompson succeeds in making this into a pyrophosphate of zinc, at present, is beyond my comprehension, unless he has mistaken or mixed his samples, and analysed Poulson's twice over. Mr. Thompson apparently thinks that it is an advantage to have no excess of zinc oxide, but he does not say how, in the absence of a fluid solvent, we are to take into combination the centre of a crystal so dense and hard as to cut steel rapidly. The oxide fuse is as hard as flint.

The report, in other respects very favorable, is made to exhibit me as making a material different to what I represent it to be. My only reply is that Mr. Thompson either has not analysed my porcelain cement, or he has made a blunder of which I do not think him capable. I am, &c.,

THOMAS FLETCHER.

PROFESSIONAL FEES WITH REGISTERED DENTISTS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Now that our profession has had a legal recognition it behoves all Dental practitioners who wish to promote the welfare of their art to have some organisation, so that some definite course might be pursued by all registered Dentists. The difference in charges with Dentists are very great, still the work of each may be no better from an artistic and practical point of view, and it has often occurred to me that our fees should be limited in most cases, or a proper tariff adopted for each separate operation. In some countries, in the cities medical men cannot legally charge more than 5s. a visit if within a certain distance, and so much for a post-mortem examination or analysis of the stomach after death.

I see no reason why the public should not be protected from unscrupulous Dentists charging extortionate fees (£52 10s. a full set) seeing that they (the public) indirectly through Parliament have granted a licence to all registered Dentists to sue for their fees in a court of justice.

After being in practice for over thirteen years I am fully persuaded that the most difficult case of teeth, upper and lower, can be made for thirty guineas, which will leave considerable profit. Still this sum is not extortionate, providing they are scientifically and physiologically made artistic in appearance, and practical as regards mastication.

To my mind the sum named should be the maximum price for full sets where a chloroform operation is required for extraction preparatory to insertion.

In regard to nitrous oxide gas, I maintain that a guinea for a single extraction is not too much, and 10s. 6d. for each separate extraction, providing it can be done during the first inhalation. The luxury of an anæsthetic, if properly administered, is worth the fee, and provided that not too much gas is consumed ought to be the standard fee. For an ordinary extraction 5s., and in very difficult cases 10s. 6d.; for artificial teeth so much per single tooth (21s.), and so much for the plate according to the material. A gold plate might be worth £2 10s. as its intrinsic value, and it cannot be expected that a set can be made for less than its intrinsic value when it may take two or three days to make. Five guineas a day on the average is not too much for a good practitioner for actual time employed, charging extra for material, &c., used; therefore, if it takes four or five days, by working steadily and not hurriedly, to make a full set of twenty-eight teeth, if properly constructed and accurately fitted, twenty to twenty-five guineas is not too much. These remarks are written so as to elicit information about a uniform rate of fees for first-class Dental practitioners. I am, &c.,

VERITAS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In reading the 'Surgeon's Vade Mecum' by Druitt, 11th edition, 1878, on Anæsthetics, page 718, speaking of nitrous oxide gas, I understand him to say that its anæsthetic effects are produced in seven (7) seconds. Is not this a typical error of 7 for 70?

All Dental surgeons who have had any experience with the gas must know that it takes on the average about seventy (70) seconds to produce the proper state for painless extraction, &c., and where a patient is addicted to over-indulgence in alcoholic beverages, it frequently takes double that time, owing, no doubt, to the encephalic organs being in an abnormal condition.

Up to the present date my success with the gas has been excellent, but unless every attention is given to the preparation of the gas (being so far away I find it better to generate my own supply), besides seeing that the supply tubes, inspiratory and expiratory valves of face-piece, &c., &c., are in perfect working order, the operation may not prove a success.

A knowledge of physiology, respiration, circulation, &c., is absolutely necessary towards the success of every opera-

tion, and great discrimination is required on the part of the Surgeon-Dentist to know how much to give to each individual patient, for I find that a sluggish and an active circulation require more or less time, as the case may be, for the quicker the blood passes through the system, if charged with nitrous oxide gas, the quicker will anæsthesia be induced.

It behoves every registered Dentist to make himself thoroughly acquainted with the action of anæsthetics, and the dangers and symptoms, and means of restoration, as well as contra-indications for giving it. I am under the impression that any registered Dentist may administer the gas, but if a death resulted from carelessness or want of proper surgical knowledge what would be the result?

Medical men are qualified (from experience) to administer chloroform, and on the same grounds Dentists are qualified to administer nitrous oxide gas; but how about those Dentists who may be classed as empirics, or those whose practice is the result of mere experience? A Dentist who gives anæsthetics ought to know something more than mere experience, as the lack of surgical knowledge might cause death from a trifling cause, which might have been easily prevented by those possessing a knowledge of physiology.

I am, &c.,

STUDENT.

PSEUDO-DENTISTS AND ADVERTISING.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your October number there is a letter signed "J. C. V.," headed "A Plea for Advertising." His remarks in favour of legitimate advertising by really competent Dentists are to my mind just and logical, but the following paragraph in his letter proves to my mind that he is a mere empiric in the matter, and looks upon making a set of teeth just like a tradesman making a pair of boots or anything to sell:—"Nevertheless, I can well imagine one of our 'virtuous indignation' men who has been fleecing (?) his patients at a high price per set finding it very galling to have another *man* (no doubt he means a mushroom or a purely mechanical Dentist) in the next street commence advertising a *similar* article (just as if sets of teeth were already made for inserting in the mouth) at less than half price." I have heard of many so-called Dentists advertising sets of teeth for a fabulously low price, which was only done to entrap people into their *shops* (not surgery), for they had only sets of teeth made up for show, the patients being told that there were none suitable in stock, and to make a fresh

set for their mouth, which was a very difficult case (a tissue of lies), would cost just double the price advertised.

Of course the patient had a beautiful set made, but unfortunately they caused so much pain and annoyance that it was impossible to wear them. The *man*, who does not (?) fleece his patient, suggests another set of teeth, for which he will take something less than the first. After the second set is made, the pain and annoyance is worse than ever, owing to the morbid state of the gums, &c., &c., caused by an imperfect fit. After enduring fearful agony some friend advises him to consult an established and respectable Dentist whose fees are very high, but understands his profession and does not take advantage of his patient's ignorance. This is what is daily done by unprincipled men who are moral parasites in the Dental profession.

As a Dental surgeon and registered Dentist I have a position to maintain and a family to support, and cannot afford to work for fees out of which no honest man can make a living. From 2s. 6d. to 5s. is a fair fee for extracting a tooth properly, and few people grumble at it. A gold (18-carat) plate for two teeth often has to be made so large that its intrinsic cost is from 30s. to 40s. It takes a day to make the models, fit the teeth, &c., &c.; and costs £4 4s. or more. Nothing but a gold plate would do for the mouth in question. Some will make the two teeth (not on gold, of course) for £1, but after wearing it the patient's mouth becomes inflamed; a medical man is called in, and orders all the remaining teeth to be extracted to prevent further trouble. I know how to make an artistic set of teeth, and adapt the same to any mouth, for which I require from fifteen to thirty guineas, and get it too.

I am, &c.,

COLONIST.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I would take it as a great favour if Mr. Thomas Fletcher would tell us how he makes the carbolised resin he speaks of in his paper in your issue of October 1st, 1879. I have made inquiries of several chemists, but they cannot tell me.

I am, &c.,

E. E. JOHNSTON, L.D.S.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Seeing that some Dentists classify chemists as Jacks-of-all-trades, and others that they have no right to Dental registration, I think it fair if I, as a chemist, inform the British Dental Association of a Dentist who has regis-

tered, and who has not so much right as a chemist. This registered Dentist is not a chemist and Dentist, but a man who has registered as being in *bonâ fide* practice of Dentistry only at the time of passing the Act.

Now this registered Dentist was at the time of the Act passing in a situation as a *man-servant*, and I only saw, about three weeks ago, in the 'Times' an advertisement addressed to him, seeking a situation: stating age, good character, active, &c. This registered Dentist, some years ago, used to be servant to a Dentist. That is how he got some little idea of the profession, and seeing that when the Act passed his chance of giving the public the benefit of his great experience would be gone, he registered as being in *bonâ fide* practice, and I have heard that he cannot even extract a tooth. These facts may be interesting to some of your readers, and at the foot of this you will see his name and address, not for publication, but for the use of the Association if they think fit. Enclosing my card,

I am, &c.,

A CHEMIST.

To the Editor of the 'British Journal of Dental Science.'

SIR—"Drareg Kcalb" says: "In looking over the Dental Register the number of names which have pharmacy attached to their qualifications at once strikes the eye." My opinion is that a great or the greater number of chemists have registered solely on the ground that they extracted teeth previous to the passing of the Act. If *bonâ fide* means or is intended to include all chemists who extracted teeth I say let them remain on the Register. But my opinion is that such is far from the meaning of the Act, and that, whether a person has his name on the Chemist's Register or not, that does not entitle him to be on the Register, or does not render him liable to have his name erased. I think unless a person has held himself before the public as a Dentist before the passing of the Act in some way, he has no right whatever to claim the title of Surgeon-Dentist, let him be a butcher, a blacksmith, a barber, or a chemist. I think unless he has held himself before the public as a Dentist he has no right whatever to claim the title; and, on the other hand, if he has held himself to the public as a Dentist, whether he be a butcher, a blacksmith, a barber or a chemist, I think, to recognise all existing rights, which the law intends to do, they have a perfect right, more so than the registered chemist, who has registered himself as a Surgeon-Dentist merely on the ground that he has extracted teeth at some past time, and in some cases it may be years ago.

I think it would have a good effect if the word *bond fide* were clearly defined, and a person be appointed in every large town to investigate who has registered, either separately or in conjunction with pharmacy, and unless they can prove that they have held themselves before the public as Dentist, they have no right to be on the Register.

I am, &c.,
DENTIST.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I quite agree with Mr. Drareg Kcalb's letter in your last issue of the Journal, that every Dentist having the knowledge of any false registration should communicate with the Association for correcting these matters. Not long ago I called at a chemist's near where I live to buy something, when he told me he thought of registering himself as a Dentist, as he was in the habit of *pulling* out one or two teeth a week at his shop. If he managed to register himself he would then have a plate put up calling himself Surgeon-Dentist. He has since done this, besides letting people know of the fact by advertising on his railway time cards. The fitness of this man being allowed to practise may be judged by his lately asking me whether it was a safe thing to extract a wisdom tooth when decayed? Should such a man as this be reckoned one of us? If so, it is really very humiliating.

I am, &c.,
ARTHUR PHILLIPS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In the letter of "M.R.C.S. Eng.," which appeared in your Journal for December 1st, I do not find anything new, and fail to see for what purpose it was written, as the information it contains was made public long ago. The traffic in bogus diplomas is a blot on the laws of the United States, and is deeply to be deplored, but I consider the buyer as bad, or worse, than the seller, as if there was no demand the traffic must of necessity cease. If, instead of wasting his time while in America trying to make a new discovery out of facts that have been known for years, "M.R.C.S." should have obtained some new ideas in theory or practice, and then published them upon his return, he would have done himself some good as well as his *confrères*.

The possession of a diploma does not prove a man's ability. He may fulfil all the requirements of the most elaborate curriculum, pass an examination, and become the proud recipient of the diploma this entitles him to, and yet be

entirely *unqualified* to practise the profession he has chosen. A man's work and not his titles must prove his worth.

It is so easy to criticise and discover faults in others and totally fail to perceive the shortcomings in one's self. I cannot help quoting the very applicable words of the 'Professor at the Breakfast-table' who says:—"When Nature invented, manufactured, and patented her authors, she made critics out of the chips that were left." Does "M.R.C.S." hope by his letter to annihilate the Dental colleges in America? The theoretical part of the English Dental curriculum is certainly superior to that of the American, but the practical part of the latter is superior to that of the former. What we require is a combination of the good points of both.

Might I ask if the M.R.C.S. diploma indicates that its possessor has undergone any special training in Dentistry? Would it not be far better for "M.R.C.S. Eng." to first cast out the beam in his own eye before attempting to pluck out the mote that is in his brother's. Trusting to your well-known impartiality to insert this in your next issue,

I am, &c., SINE INVIDIA.

[We must remind our correspondent, "Sine Invidia," that the letter he alludes to, signed "M.R.C.S. Eng.," appeared originally in the 'British Medical Journal' some weeks ago, and was only republished in our pages at the request of a medical friend, who was surprised that no notice was taken of it, and concluded that it would better meet the eye of his American friends in our pages. "Sine Invidia" has overlooked the main point of "M.R.C.S.'s" letter, which, we fear, points to something more than the "bogus diplomas."—Ed. B. J. D. S.]

"AUT CÆSAR AUT NULLUS."

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have perused the very long article in your Journal of the 15th ultimo under the above heading; and, so far as the writer of that voluminous communication has endeavoured to instruct your readers in the meaning of certain terms connected with Dentistry, I have nothing to say, but that he should have gone so completely out of his way—absorbing more than two pages of your valuable space—to give us the definitions of the terms chemist and pharmacist was, for *two reasons*, a decided mistake. First, because such teaching was unnecessary and uncalled for; and, secondly, because the article in question was in reality made a vehicle

for the introduction of unkind and offensive epithets against a class of men whom he ought to have known were entitled to sympathy and respect.

It may be true that some chemists have had their names placed on the Dental register who should not have done so; but what has this to do with those who have made no such mistake? and why should Mr. Ward take so much pains in trying to degrade the Pharmaceutical Society for the actions of a few of its members? If he thinks reform necessary, why does he not address himself boldly to the society itself, and not abuse its members for those things over which they have little or no control?

Nothing is easier than for a man to sit down and call chemists "Jacks-of-all-trades," "Charlatans," and to tell them that, "whilst engaged in the profound depths of their mysteries, they would stop to sell a comb and brush, a bath-sponge, or cake of soap to wash fleas from dogs;" and further, that "the majority would register as monthly nurses if need be, &c."

I say, sir, by such a spirit as this neither the Dental nor any other society ever was or ever will be advanced. If Mr. Ward's estimate of chemists and druggists is a correct one, how is it that from their ranks have come some of our most distinguished and best medical men and Dentists? The gentleman of whom I learned my Dentistry—one of the most highly respected and best practitioners in London—told me he commenced as a chemist; and one of my most intimate friends, now an M.D. London, began as a chemist in a country town, where he not only had to sell miscellaneous articles, but had to perform many duties which, although quite shocking to one of Mr. Ward's particularity, have not proved of too humble a character to prevent him reaching his present exalted position. If necessary I could mention many cases to show the intimate connection between the so-called "Jacks-of-all-trades" and the professions to which I have alluded.

Take the case of two brothers—a very common one: one enters the medical profession and the other the business of a chemist. Shall the former look down upon the latter because his duties are different to his own? Your correspondent cannot for one moment imagine that a man of education is satisfied or refreshed with being obliged to sell the various articles which he has taken such pains to enumerate.

I may, however, in conclusion, tell him for his own information and future guidance that, so long as medical men supply their own medicines and keep open retail shops, so long will

the chemist be obliged to act as he does at the present time.

I am, &c.,

CHEMIST AND DENTIST OF NEARLY
THIRTY YEARS' STANDING.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I beg to enclose you the account of a case which I had tried here on Monday last, and which has been reported in our local papers. I forward it to you thinking whether by its publicity in your Journal it would be of any ultimate benefit to my brother practitioners. It was for a partial vulcanite upper.

Having had one or two similar cases I was determined in this one to try the county court, and, as you perceive, it was given against me, although at the time the man advertised his wife, I was not living in England.

Apologising for thus troubling you,

I am, &c.,

GEO. F. PASSMORE, M.O.S.

"G. F. PASSMORE v. T. SELDON.—The plaintiff, a Dentist, of Exeter, was represented by Mr. Burch; and the defendant, a farmer, of Hatherleigh, was represented by Mr. Floud. The claim was £3 3s. for a set of teeth supplied to the defendant's wife. It appeared that in 1873 the defendant advertised that he would not be responsible for his wife's debts, but plaintiff was not in Exeter at that time, and the advertisement did not come to his knowledge. The teeth were ordered in June, 1878. Mr. Burch contended that the only question was whether the teeth were a necessity. His Honour said when a man and his wife were living together the law held the husband liable for necessities supplied to his wife. The plaintiff said Mrs. Seldon ordered the teeth, and he made them for her. She had not, however, been to try them, nor would she take them away. He, therefore, still had the teeth, but of course they were of no use to him. His Honour did not think the set of teeth "necessaries," and coupling this with the fact that the defendant had advertised his wife in three Exeter papers, and had not authorised her to order the goods, the plaintiff could not recover."

To the Editor of the 'British Journal of Dental Science.'

SIR,—In reply to an inquirer respecting nickel-plating instruments, &c., I beg to send the following recipe, which, I think, he will find effective:

Dissolve pure nickel in nitric acid, dilute and precipitate by adding carbonate of potash or cyanide of potassium. Wash the precipitate thoroughly. Dissolve nearly to saturation in a solution of cyanide of potassium. Employ the battery process and use an anode of pure nickel.

I am, &c.,

J. E. RICHARDSON.

OUR LATE CHRISTMAS APPEAL

To the Editor of the 'British Journal of Dental Science.'

SIR,—Mr. G. W. Bellaby, Nottingham, sent 10s. 6d., and we added another half-guinea. No other response to your "Christmas appeal" in Journal.

We are, &c.,

CLAUDIUS ASH & SONS.

WESTERN COUNTIES DENTAL ASSOCIATION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In fairness to the Honorary Secretary of the Western Counties Dental Association I should like to call attention to the amount of work done by Mr. W. V. Moore, of Plymouth, in the formation of our Society. I have before me now the kind remarks you make of my connection with the association, but so successful a meeting would not have been held last August had it not been for Mr. Moore's hard work.

If you will kindly give insertion to this in the next issue of the Journal you will oblige,

Yours, &c.,

J. T. BROWNE-MASON.

6, Southernhay, Exeter;
29th December, 1879.

RICHARDSON'S DENTAL CHUCK.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In the report of the last meeting of the Odontological Society there is a short description of my chuck, in which an error, slight in itself, but tending to produce a wrong idea of its capabilities, occurs; would you kindly allow the following to appear to correct that mistake:—The chuck does *not* carry "buff sticks," or anything approaching them, but it *does* carry corundum wheels, polishing brushes, burrs, drills, canes, countersinks, Ayr stone, sand-cloth and centred button wheels, &c.

I am, &c.,

F. RICHARDSON.

10, London Street, London Road, Derby;
December 23rd.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.

All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.

3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :
Twelve Months (post free) 14s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.

5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

ANSWERS TO CORRESPONDENTS.

EDWARD BARTLETT and others not noticed in this issue will be attended to in our next.

Communications received from "Sine Invidia," "A Dentist," C. Stent, W. Chisholm (Edinburgh), "Colonist," J. H. Kyan, A. R. Phillips, George Ward, Thos. Fletcher, J. W. Langmore, M.D., E. C. Johnston, "Veritas," C. D. Davis, Andrew Wilson, G. De Lessert, "G. P."

BOOKS AND PAPERS RECEIVED.

- 'Missouri Dental Journal.'
- 'Johnston's Dental Miscellany.'
- 'L'Art Dentaire.'
- 'Le Progrès Dentaire.'
- 'Pharmaceutical Journal.'
- 'Giornale de Correspondenza dei Dentisti.'
- 'London Express.'
- 'Glasgow Medical Journal.'
- 'Dental Register.'
- 'Dental Cosmos.'
- 'Monthly Review of Dental Surgery.'
- 'Correspondenz Blatt für Zahnärzte.'
- 'L'Odontologia.'
- 'Gazette Odontologique.'
- 'Journal of the Chemical Society.'
- 'Medical Press and Circular.'
- 'Dental Advertiser.'
- 'Deutsche Vierteljahrsschrift.'

British Journal of Dental Science.

No. 288. LONDON, JANUARY 15, 1880. VOL. XXIII.

Dental Surgery and Medicine.

ON THE THIRD MOLAR.

A paper read before the Students' Society of the Dental Hospital of London, November 24th, 1879,

By C. D. DAVIS, Esq.

(Continued from page 5.)

A somewhat similar but rather more severe case is recorded by Mr. Weiss in the paper mentioned before. In the upper jaw the third molar is usually misplaced outwards or backwards, or in a position between the two. It seldom causes more than a mere pinching of the mucous membrane and subsequent ulceration and tenderness, though a case will be presently mentioned in which severe symptoms were occasioned by a misplaced upper wisdom tooth. In the lower jaw the misplaced wisdom tooth very frequently lies with the crown directed forwards towards the second molar, the pressure thus exerted on the latter tooth leading to its partial absorption, the whole of the posterior fang being occasionally absorbed, and the pulp chamber of the anterior fang opened.

The following case, recorded by Mr. Sewill, illustrates these points:—A gentleman applied to him suffering from pain in and about the right ear. "On examining the mouth, the lower wisdom tooth of that side was found lying almost horizontally with the masticating surface, so directly opposed to the posterior surface of the second molar that it was impossible to ascertain by the probe whether either or both were carious. Cold water gave evidence of an exposed pulp. Removal of the wisdom tooth was the right treatment, but was impossible. It was therefore determined to remove the second molar, and then the wisdom if necessary. Both, however, came out together, and there was seen a large cavity with exposed pulp in the second molar where the

crown of the wisdom tooth had impinged." In its tendency to caries the third seems to stand next after the first molar.

A symptom which sometimes complicates impaction or caries of the wisdom tooth is trismus or lockjaw. This is a tonic spasm of the muscles which close the jaw, especially the masseter and pterygoids. The closure of the jaw may be partial or complete, and the use of a wooden wedge or Maunder's screw gag is necessary to force open the mouth so that the cause of irritation may be removed.

The occurrence of trismus is explained by the close nervous relationship existing between the teeth and mucous membrane of the lower jaw and the muscles closing the jaw. All these structures receive their nervous supply from the inferior maxillary division of the fifth nerve, the teeth and mucous membrane through the inferior dental branch, and the muscles through the masseteric and pterygoid branches.

A similar explanation can be given of what is essentially a similar phenomenon to trismus, viz. the occurrence of pain in and about the ear attending the eruption of the wisdom teeth, the nerve supply to the external ear being chiefly derived from the auriculo-temporal, another branch of the inferior maxillary.

In addition to the above, other nervous disturbances of varying severity occur as the result of irritation from impacted or carious wisdom teeth, though, perhaps, these affections are not more frequently caused by the third molar than by other teeth, except in so far as it is more liable to impaction.

Mr. Salter, who gives many interesting instances in his 'Dental Pathology and Surgery,' quotes a case of a lady taken to the Hospital of La Charité suffering from mental derangement, which was completely cured by lancing the gum over an impacted wisdom tooth. He also records a case of a healthy girl, æt. 22, who had an ulcer about the size of a shilling below and behind the angle of the jaw, which rapidly healed on the removal of a carious lower wisdom tooth, though all previous treatment had been unavailing. Cases are also recorded of severe neuralgia, delirium, epilepsy, and paralysis of the face and arm, due to similar causes.

The eyes and ears are, from their intimate anatomical nervous connection with the teeth, apt to suffer from inflammatory and nervous disturbances arising primarily in and about the latter organs. Mr. Chas. Tomes related the following case at a meeting of the Odontological Society:—"A patient suffered most intense neuralgia in the eyeball, the pain occurring at marked intervals, 9 p.m. and 3 a.m. There were no decayed teeth on that side of the mouth, but

the upper wisdom tooth stood nearly horizontal. The tooth was extracted, and there was no return of the neuralgia." A remarkable circumstance connected with this case was the development, in the place of the tooth which had been removed, of another wisdom tooth in a nearly normal position.

In the 'Lancet' of 1846 Dr. Castle, of New York, mentions the case of a celebrated oculist of that city who suffered from what he called "a sort of bastard sciatica," causing lameness, which was instantly cured by the removal of a carious lower wisdom tooth.

Permanent blindness of one eye has occurred in more than one instance.

Treatment.—The treatment of caries of the third molar need not here be noticed, as the same rules apply as in the case of other teeth. If in difficult eruption the only symptom is pain due to tension of the gum over the advancing tooth, lancing of the gum will give the necessary relief. Nélaton advises that this should be done by a crucial incision over the crown of the tooth, the flaps thus formed being removed with curved scissors.

The treatment of impaction and its attendant symptoms is nearly always the same, viz. the removal of the offending tooth. In cases of suppuration this should always be done, any palliative treatment being of little avail, in many cases tending only to prolong the discomfort of the patient, while the removal of the tooth will be ultimately necessary.

In young patients, if pain is the only symptom and is not unbearable, it may be well to wait, in the hope that the lengthening of the jaw may relieve it. If the symptoms are due to pressure of the third against the second molar, the question will arise as to which tooth should be removed. In some cases there will be no choice, as the removal of the third molar, if theoretically correct, will, from its position, be practically impossible until the tooth in front of it is extracted.

Where the wisdom tooth is sound and the second molar much decayed or absorbed from pressure, it will be better to remove the latter tooth, as this will relieve pressure, and the third molar, though misplaced, may subsequently, partially or completely, assume the normal position. In some cases it may be necessary to remove both teeth. It would, of course, be absurd to try to lay down a line of treatment for all cases; each must be judged upon its merits, the two chief objects to keep in view being to relieve the pressure, and, if possible, save the tooth, which will probably be of most service to the patient in the future.

An interesting question of treatment recently arose in the extracting room of the hospital. A patient, aged about twenty-two, presented herself complaining of pain about the angle of the jaw on the right side extending up to the ear and down to the shoulder. The first and second lower molars on that side were decayed, the first being rather more so than the second, and the wisdom could be felt beneath the gum. The question was which molar should be extracted, the first or second? The removal of the second would give the more immediate relief, but it had a direct antagonist in the upper jaw, whereas the first had no antagonist and was rather more decayed. Acting on the advice of the house surgeon I extracted the second molar and could then pass the probe beneath the mucous membrane over the crown of the wisdom tooth, which was in a normal position.

An interesting point for discussion in anticipatory and preventive treatment is the influence which the early removal of the first permanent molar may have upon the eruption of the third.

It has already been seen that most of the severe symptoms arise from want of space on the alveolar border, and if this space could be increased in anticipation of the coming of the wisdom tooth, it is probable that much suffering might be avoided, and the wisdom tooth would be erupted under conditions more favorable to its permanent usefulness. On the other hand, these conditions are to some extent counterbalanced by the uncertainty as to what the condition of the wisdom tooth will be when erupted, and whether it will be erupted at all. It would certainly be bad policy to remove a sound tooth to facilitate the eruption of a tooth which may never appear.

If, however, the first molar is much decayed (as is so often the case) and the mouth is crowded, the removal of the former will afford immediate benefit by relieving the crowding, and thus lessening the liability to interstitial decay, and at the same time facilitate the eruption of a tooth which can hardly be less and may be much more useful.

I have now, Mr. President and gentlemen, to thank you for the kind attention with which you have listened to a paper which, I fear, does but scant justice to the subject of which it treats.

Mechanical Dentistry.

CHAPTERS ON MECHANICAL WORK, ILLUSTRATED BY CASES IN PRACTICE.

By F. H. BALKWILL, Esq., L.D.S., Plymouth.

(Concluded from page 9.)

To arrive at this desired result, it is a good habit to take special notice of all the good-looking natural mouths possible, the shaped tooth, whether long or short, narrow or wide, to compare with the general contour of the face; the colour of the teeth should be compared with the complexion and age, the boldness or otherwise of the arch, and the relative position of the upper and lower teeth, with the general expression of character as whether muscular, bold, firm, active, impulsive, amiable, intelligent, or the reverse. Then, as to their exact symmetry, and how far this is consistent with age, though upon this point we shall generally be obliged to flatter our patients a little. After a time a certain judgment will be formed, so that on looking at a person the Dentist will see in his mind the sort of teeth which will suit him, not the highest ideal perhaps, but at any rate what will look harmonious, natural, and pleasing.

We shall be guided by any natural teeth the patient may have remaining in matching the colour, usually allowing the upper artificial incisors to be half a shade lighter than the natural canines or lower incisors. If there are no natural teeth, the complexion of the face must be our guide; a brilliant, transparent teeth, florid complexion may have the brightest and whitest with the slightest yellowish tint towards their roots; a strong, healthy, sanguine complexion should have yellowish teeth; a fair, pale complexion should have pale, self-coloured teeth; a dark, pale complexion may have dusky yellowish teeth; whilst a sallow complexion should have medium self-coloured teeth.

The choice of the shape of the teeth should also be matched by the natural teeth, if these are in existence; if the front incisors have been extracted by the Dentist previously to his adapting the set, it is a good plan to keep them in water, in little wide-mouthed bottles, in the work-room for reference when choosing the substitutes. In default of these aids, however, we must have recourse to the general appearance and contour of the face; a large face should have large teeth; a small face, small teeth; a long

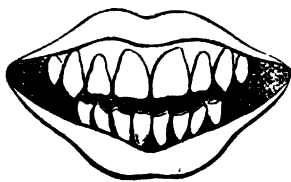
face, long teeth ; a broad face, broad teeth. But there are delicate varieties of expression to be indicated by the teeth besides those of colour and outline. Some persons of a highly delicate and refined class have long light teeth in which the transverse contour lines are very characteristic. Messrs. Lemale have imitated these in some of their patterns, with an artistic feeling which leaves scarcely anything to be desired ; the same remark also applies to their lower incisors generally.

Other persons belonging to the educated but yet active classes have teeth in which the transverse contour marks are not to be seen ; these teeth are quite smooth or have only longitudinal depressions on their faces. Messrs. Ash have types of this class of teeth, which for form, finish, and texture are admirable ; American teeth, although not equaling the previously named makers in texture and form, have a naturalness in translucency, and in the gradation of this from the tip to the body, which cannot always be obtained in English teeth ; whilst American gum blocks are excellent where they can be judiciously used. The Dental Manufacturing Company have among others produced a vulcanite tooth with a long enamel, and thin cutting edge, which has an individuality and brilliancy of appearance which have an excellent effect in mouths where long bright or white natural teeth have to be matched, and a little space left between them.

The position of the teeth in the mouth is the next consideration. The two faults to be especially avoided are the production of pouting or flatness. Let us suppose the four upper incisors need to be replaced between the natural canines : if we have the option, we shall retain the stumps in order to keep out the fulness of the gums ; but if these are absent, the alveolar wall will have been absorbed, the gum will have fallen back, and we shall be in danger of putting in the teeth too short, giving a flatness to the teeth which causes a sour expression in the face. The cutting edges of the incisors should be on a horizontal plane, even with, or a little lower than, the points of the canines ; the cutting edge of the laterals may be a little higher than this, so as to make a slight step between the distal angle of the central and the mesial edge of the canine. This rule is subject to some variation ; if the teeth are perfectly upright, or pointing slightly towards the cavity of the mouth, the edges of the incisors should be in the same horizontal plane with the point of the canine, or slightly lower ; whereas if the teeth are rather projecting, a more decided step between each of the three teeth will look well.

As the cutting edge of the tooth is where that of its natural predecessor was, and, as the gum has receded, it is obvious that it will require a longer artificial tooth to reach the gum; if the patient in smiling shows these, and they have an unpleasing appearance, especially if it is a young lady, adapt gum blocks to the case. When persons smile or laugh in animated conversation, they usually separate the lips to a distance sufficient to show the whole of the upper and lower teeth, but the upper lip rises more than the lower lip falls, and the corners of the mouth are drawn backwards and upwards. In consequence of this some of the upper gum is usually shown and only part of the lower teeth. (See fig. 55.)

FIG. 55.



This rule is by no means unvarying, as the division between the teeth does not always correspond with that between the lips when closed, but is sometimes above and sometimes below.

In young persons, or those of little muscular tone, the teeth will not be much worn; it will therefore be natural to such patients to have teeth with their cutting edges slightly round, and the distal and mesial angles not very acute; whereas with persons of powerful, muscular, masticating force it will be well to grind the cutting edge of the cutting teeth to imitate the wearing of the natural ones. In doing this the cutting edges must not be made to present a continuous line, but each tooth ground so as to preserve its individuality, as this is one of the great points to be aimed at in artificial teeth, so that the cutting edge of the set presents a broken, uneven, angular line, which is still fairly symmetrical. The lower teeth should be ground to correspond so that when they are brought together their edges will fit those of the upper as if they had functionally worn each other; this gives a very natural appearance. Some persons have very brittle enamel, or from other causes the edges of their teeth get notched by small fragments chipping off; it is well to imitate these by grinding notches in the cutting edges of the artificial teeth where these have to match the

natural ones, or even where they are opposed to them. Honey-combed teeth may be successfully imitated by grinding and filing into the face of the mineral teeth, using the natural tooth as a pattern.

The degree of arch which should be given to a full set may sometimes be judged by the curve of the upper alveolar ridge, but in some patients this is absorbed to a much greater extent than in others.

As the canine is the combative tooth it is evident that prominence of this, giving a squarish arch, is a masculine expression, and should be reserved for a man. The lower teeth should never be set further out than the upper, but they may be placed edge to edge with them, which gives a firm or determined aspect, more suitable for a gentleman than a lady; whilst to put the lower teeth a good deal behind the upper, which would give a hesitating timid air of a man, is sometimes quite becoming to a lady, having a pleasing gentle look. Prominent teeth, rather slanting forward, give an open talkative air, whilst the reverse effect is produced by teeth out of sight in the cavity of the mouth.

In mounting a full set we first proceed to get the two upper centrals in place. The teeth having been chosen, and the plate struck up, if a gold plate is to be used, or a trial plate of wax moulded to the model if for a vulcanite set, mount the two centrals approximately in wax, and adjust in the mouth. Take care that the mesial division of the teeth is in the central line of the face, carried down from the centre of the nose and lips, and that the teeth are far enough forward to keep the lip in a natural position without pointing it. When the mouth is quietly opened, without drawing up the upper lip, usually the teeth should show for the sixteenth of an inch. Be careful that the cutting edges form a horizontal line, or are evenly inclined from it on each side of the median line. When the two centrals are mounted proceed with the other teeth, one on each side at a time, and see that the patient in smiling uncovers the same amount of the teeth on each side at once (see fig. 56).

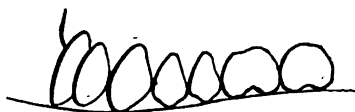
FIG. 56.



Where the line of the mouth is not horizontal it is best to make the line of the teeth so, when, of course, the above rule will not apply.

The tops of the lower set of teeth should be nearly in one plane, and as the lower front teeth are overlapped by the upper, it follows that the upper masticating teeth are in rather a higher plane than the six anterior upper teeth. The effect of this is to make the upper bicuspid a little shorter than the canines (see fig. 57), and if this is carried

FIG. 57.



out in the artificial teeth it helps us to avoid having a very full-looking mouth. Having mounted the upper teeth it is a matter of comparative ease to set up the lower teeth by them, but it is not so necessary to get the centre exact; indeed, it is rather better that the lower mesial line should not coincide with that of the upper. In nature it rarely does so.

Some irregularity in the setting of the teeth is admissible, especially in the lower, which can often by a little grinding at the sides be made to ride over one another in a very natural manner. This must be managed so that the two sides are symmetrically balanced in appearance without being exact copies of each other. But this method of giving a natural expression must be very judiciously and moderately used or the patient will not endure it, as he considers that if it is a defect needing regulation in the natural teeth it must needs be a blemish in the artificial teeth where we have the option of avoiding it.

NICKEL PLATING WITHOUT A BATTERY.

By W. J. CHERY, Esq.

INTO the plating vessel, which may be of porcelain or copper, place a concentrated solution of zinc chloride, dilute it with from one to two volumes of water, and heat to boiling. If any precipitate separates, it is to be redissolved by adding a few drops of hydrochloric acid. As much

powdered zinc as can be taken on the point of a knife is thrown in, which covers the vessel internally with a coating of zinc. The nickel salt, for which purpose either the chloride or sulphate may be used, is added until the liquid is distinctly green, then put in the articles to be plated, previously thoroughly cleaned, together with some zinc fragments. Continue the boiling for fifteen minutes, when the coating of nickel is completed. Well wash the articles with water and clean with chalk. If a thicker coating is desired the operation may be repeated. Wrought and cast iron, steel, copper, brass, zinc, and lead have been successfully coated by this process. It is necessary that the objects should be entirely covered by the plating liquid, and that their surfaces should be thoroughly cleaned. Salts of cobalt treated in the same manner afford a cobalt plating, which is steel grey in colour, not so lustrous as the nickel, and more liable to tarnish.

NICKEL PLATING.—Dissolve some nitrate of nickel in its own weight of ammonia, and dilute the whole with twenty to thirty times its volume of liquid bisulphite of soda, marking about 24° Baumé.

Another bath is a solution of nitrate of nickel, without excess of acid, precipitated by cyanide of potassium, and the precipitate redissolved by more cyanide. An acid solution of nickel may be precipitated by alkalies, such as potash, soda, or ammonia. After washing the precipitate, dissolve in cyanide of potassium. A moderate battery power and a nickel anode are employed. Mr. Dunn can use a Smee or Daniell's battery.—T. A. R.

DENTAL ALLOY.—In melting up old dental alloy plates and cuttings, having sifted the dust from the pieces, or removed the cuttings with a pair of tweezers, pass a magnet several times through the filings to remove any iron, brushing off the iron with a hare's foot or cloth from the magnet, place the dust in a jam pot with one of sulphuric acid and two of water, let it stand for one hour, stirring with a glass rod or clay pipe occasionally; this will remove any lead or zinc. Wash several times with water, letting the filings settle each time; dry in an oven. It can now be melted in a good furnace, have the ingot mould well smoked and warm, stir and pour.

But "Old File" would get a much better piece of plate if he was to send the cuttings and dust after treating as above to

Buckland's Mills, Hop Gardens, St. Martin's Lane, and ask them to refine and platinise surface, for which they would charge 8d. per ounce.—T. ABRAHAM ROGERS, Caledonian Road, N.

Hospital Reports and Case-Book.

MONTHLY REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON.

FROM DECEMBER 1ST TO DECEMBER 31ST, 1879.

Extractions	{ Children under 14	285
	{ Adults	527
	{ Under Nitrous Oxide	211
Gold Stoppings		56
White Foil ditto		12
Plastic ditto		274
Irregularities of the Teeth treated mechanically		14
Miscellaneous Cases		163
Advice Cases		87
Total.....		1629

JOHN BERNARD MAGOR,
Dental House Surgeon.

REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM DECEMBER 1ST TO DECEMBER 31ST, 1879.

Number of Patients attended	801	
Extractions {	Under 14	262
	Adults.....	310
	Under Nitrous Oxide	29
Gold Stoppings	43	
Sheets of Gold used, independent of Pellets.....	77	
Other Stoppings	250	
Advice and Scaling	52	
Irregularities of Teeth	27	
Miscellaneous.....	25	
Total operations		998

FREDK. A. BALLARD,
House Surgeon (pro tem.).

British Journal of Dental Science.

LONDON, JANUARY 15, 1880.

ACTING on our principle of allowing all parties freely to express their opinions in our pages, we have, for some months past, allowed a perfect torrent of complaints as to the working of the "Dentists Act," especially as regards chemists, to appear in our pages; but surely our readers, as well as ourselves, must be getting weary of the correspondence, which, as treated by some of the writers, is very wide of the mark. We shall therefore cease, for the future, to publish the letters we receive on this subject *in extenso*, but give a *résumé* in each issue of the facts or instances of special cases detailed by our own correspondents. These *résumés* may possibly be of service to the authorities of the British Dental Association; meanwhile we trust our numerous correspondents will not quite desert us, but employ their ready pens upon more useful subjects, and assist us in imparting to others the knowledge of various methods of practice and cases of special interest which may fall to their lot.

Before parting with the vexed question of Dentists and Chemists we may, however, be permitted to make a few observations thereon. In doing so we shall possibly borrow somewhat largely from the expressions used by a correspondent whose contributions have been for some time awaiting publication, but who withheld them until the course of events confirmed or refuted some of his statements.

Our correspondents seem to be chiefly exercised in mind upon two points—one is, what are existing rights, and secondly, the fact that chemists of all grades, from the fully qualified member of the Pharmaceutical Society to the recently appointed chemist's shop boy, have been admitted on the Register simply on their own declaration that they were

engaged in the practice of Dentistry at the time of the passing of the Act.

Now, of these two questions the one almost embraces the other; and, although we are far from presuming to give an apparently authoritative opinion on questions upon which so many wise and thinking heads appear to differ, we *will* venture to lay before our readers a possible view of the case, which can only be finally settled by an encounter of legal wits in a court of law, which, we trust, will be speedily brought about in the interests, not only of justice, but of peace and quietness.

First, then, as to existing right as regards the practice of Dentistry: might it not be asserted by the people that at the time of the passing of the Dentists Act, their existing right was, that any one, no matter who, educated or uneducated, could set up and call himself and act as a Dentist? If others were foolish enough to trust their case in his hands, that was their business, not his.

If this view of the expression is taken, how can it be limited in regard to the chemist and Dentist; and who is to define "existing rights" as meaning that a man had started to practise as a Dentist "some months" before the passing of the Act? How many months?

Again, if a lad entered as a shop boy with a chemist with the ultimate view of becoming one, and did so with the full knowledge that part of his emoluments would arise from the belief of the public that chemists would and could extract teeth, might not a lawyer argue that by preventing that boy from registering as a Dentist his existing rights were being interfered with? We are not stating *ex cathedra* that this is the case, we are simply endeavouring to show how widely the expression may be applied, and possibly would be by a clever lawyer. But some of our correspondents have gone farther, and complain of chemists who were actually entered on the Register of the Pharmaceutical Society, forgetting that the Act expressly authorises this, without defining in any way what constitutes Dentistry, or indicating directly or indirectly how many teeth must be drawn or what variety of operations, or amount of mechanical work must be performed

to constitute the practice of Dentistry at the passing of the Act; and this leads us to the reflection that it would have been far better had the framers of the Act, if they desired it to be a *restrictive* Act, turned their attention to the careful definition of the words *bonâ fide* existing rights of Dentistry, or Dental Surgery, &c., instead of fighting against the admission of a few educated medical practitioners to the exercise of a specialty which, though they might not have practised so skilfully as some of those more specially educated, they would not have disgraced so much as many of the registered real *bonâ fide* Dentists, in the narrowest acceptance of the term. Seeing, however, that they exhausted their energies in fighting this Frankenstein that they first created, they should now be content to accept the state of affairs, which has arisen from their contempt and disregard of what they appear to have deemed minor matters, and turn their attention to the future working of the Act, which bids fair to be much evaded, whilst their minds are occupied in the endeavour to lock the stable door after the steed has escaped.

All this may be very unpalatable to many of our readers, BUT IT IS TRUE; and our chief object in writing this is to draw attention to the fact that whilst these comparatively petty points are being discussed when—especially as regards the admission of chemists to the Register—it is too late, the one real boon conferred by the Act is lost sight of, viz. that there is at once and for ever no chance of admission into the ranks of Dentistry save by the portals of education and examination; in other words, for the future the word “DENTIST” will as much indicate an educated diplomaed man as the words surgeon or physician. To bring this about “existing rights” had to be regarded, and instead of cavilling at them, the British Dental Association, the authorities of which talk much about seeing that the Act shall not become a dead letter, should see that no one should *now* be permitted to call himself a Dentist *unless* so registered; and in cases of evasion of the Act, should watch carefully over those who, without *calling* themselves Dentists, practise as such, like the one mentioned in our issue of December 15th (Mr.

Catchall); and if caught tripping, prosecute them with the utmost rigour of the Act. Another point we would direct their attention to, and that is the case of many Dentists nor Chemists practising and so calling themselves without having registered. There are many such, and on their account we much regret the repetition of the principle of closing the gates after a certain date; but we hope and believe that some of these gentlemen, many of whom we know are in good practice, might obtain permission to register by petition to the Medical Council. We do not say it *is* so, but we hope it would prove so. There are numerous points connected with the subject of this article that we might enter upon, but we have neither time nor space at present, so we must leave the matter in the hands of our able contributor "Senex," some of whose ideas, as expressed to us, we have availed ourselves of in this article.

ARNOLD ROGERS, F.R.C.S., L.D.S.ENG.

WE have received a copy of the 'Transactions of the Odontological Society of Great Britain' for December, 1879, containing the portrait of one of its founders and early presidents, Mr. Arnold Rogers, and we must confess to a feeling of keen disappointment at the appearance of the latter. The outline of the features, it is true, are there, but the courteous, kindly expression which, to our recollection, was never absent, even when he differed from us, is utterly wanting. To those who knew him it is needless to say this, but to the younger generation, who knew him not, it is only right to say that they have not in this portrait a faithful index to the gentle, considerate, and thoughtful mind which helped many a diffident though competent candidate through the troubles of an examination at the Royal College of Surgeons of England for the Dental diploma. Our feeling of regret at this poor presentment of one of the most generous and kindly-hearted Dentists of his day is, we know,

shared by the originator of this series of portraits, Mr. Felix Weiss, for indeed it is no fault of his. He had but poor materials to work upon, and we know he has gone to infinite trouble to try and discover the best and most striking likeness of our departed presidents; but Daguerreotypes and Photographs in those past days were not as they are now; so with all his endeavours he can only do his best with the materials at his command, and, therefore, we trust that in our depreciatory remarks of the portrait before us we shall not seem to have undervalued his efforts. If in the future any unsatisfactory portraits appear, the originals will only have themselves to blame. Through the liberality of Mr. Edwin Saunders an excellent photographic album has long ago been provided for the library of the Odontological Society for the reception of the portraits of those who care to present them. Some, perhaps, refrain from sending their photographs, under the impression that to do so implies a kind of egotism or self-assertion that they are worth remembering; but they should bear in mind that such a collection is not for them or for this generation, but for a future age, when the Dentists of that day will love to look upon the likenesses of those who fought for and obtained their recognition as a liberal profession. Should some future Dentist turn over the leaves of such an album as Mr. Saunders has provided, but which has been so badly attended to, the diffident men we have above alluded to may rest assured that if they have not left their mark upon the age they lived in, their portraits will be passed over by the future spectator in the silence they courted, but the presentments of those whose names are *really and honestly* as "household words" in the profession will be scanned by eager and grateful eyes, which will look on no one of them with more interest than on the face of him who passed so many of their fathers for the coveted Dental diploma of England—ARNOLD ROGERS.

Literary Notices and Selections.

ON THE TREATMENT OF COMPOUND FRACTURES OF THE LOWER JAW.

By ISIDOR I. LYONS, L.B.C.P. Edin., M.R.C.S., L.D.S. Eng., &c.,
Assistant Dental Surgeon to St. Bartholomew's Hospital.

(Reprinted from 'St. Bartholomew's Hospital Reports,' vol. xiv.)

(Continued from page 16.)

CASE 2.—Emil Barron, æt. 36, was admitted 9th March, 1876, under the care of Mr. Callender. He had received a violent blow on the chin from a kick during a fight.

On examination it was seen that he had sustained a double compound fracture, one situated through the body on the left side between the canine and lateral incisor, and the other on the right side between the first and second bicuspid, extending obliquely back towards the angle. There was a great deal of swelling, especially on the right side. The teeth were fixed with wire, and an external gutta-percha splint applied.

On the 19th the swelling subsided, but an abscess had formed beneath the jaw on the right side of the symphysis, in consequence of which the gutta-percha splint was discontinued, and a wire interdental splint applied.

On the 22nd the abscess burst. The fragments were in good position. From that date the case progressed favorably, and on May 11th the man became an out-patient. This patient had a most irritable temper, and insisted on eating solid food almost immediately after the insertion of the splint. Fortunately no untoward result followed. The last time he was seen his jaw was perfectly serviceable, and entirely free from any deformity.

CASE 3.—Joseph Ward, æt. 50, a bargeman, was admitted on 22nd July, 1877, under the care of Mr. Savory.

Three weeks before he was thrown to the bottom of his barge and struck his chin against a grating, and sustained a fracture at the symphysis. On 1st August a wire splint was applied to his jaw.

This case did not progress very-satisfactorily. The bone at the symphysis was so comminuted by the blow he had received that up to the 14th of October small spiculæ were constantly passing through the opening at the chin, and keeping up great irritation. However, a fair apposition of

the fragments took place, and the day after the splint was applied the patient was able to masticate soft food with very little discomfort. He was last seen on 20th December, and was still wearing the splint, and did not wish it removed. This man was, except during the first fortnight, always able to attend to his work.

CASE 4.—Benjamin Carr, æt. 48, was admitted 2nd August, 1877, under the care of Mr. Holden. From a blow which he had received whilst engaged in a fight he sustained an oblique fracture on the left side between the first bicuspid and second molar in the space from which the second molar had been removed some years previously.

Shortly after he was admitted an external gutta-percha splint was applied.

On the 18th, as the fragments were not in good apposition, a wire interdental splint was inserted. There was some difficulty in setting the fragments, and this was due to the riding of the posterior over the anterior fragment, and also to the loss of firmness of the second molar.

This case progressed favorably; there was but little suppuration, and no complication whatever. He was discharged within three weeks.

CASE 5.—Joseph Ridd, carpenter, æt. 37, admitted 7th August, 1877, under the care of Mr. Smith. Through a fall from a scaffold he had sustained a compound fracture between the canine and lateral incisor on the left side, and an abscess had formed externally.

On the 14th a wire splint was applied.

There was not the slightest displacement, and the man became an out-patient three days after insertion of the interdental splint.

CASE 6.—Samuel Reeve, æt. 69, a night cabman, was admitted on 13th September, 1876, under the care of Mr. Savory. He was said to have been knocked or thrown down, when the wheel of a cab passed over the lower part of his face. There was considerable ecchymosis around each orbit, and towards the angle of the jaw on the right side, extending over the neck; his voice was reduced to a hoarse whisper.

He was subject to chronic bronchitis.

On examination of his mouth the lower jaw was found to be fractured on the left side, between the canine and first bicuspid, and also anterior to the first molar. On the right side it was fractured exactly in a similar place, anterior to the space which the third molar, now lost, had once occupied, thus forming a triple fracture. The displacement was considerable, especially on the right side; the anterior

fragment was drawn downwards and inwards; the posterior fragment being drawn upwards rode over it. On the 21st an impression in wax was taken of the fragments. It was impossible to take the impression of the posterior fragment on the right side, so the model was extended in that direction after it had been cast into plaster.

On the 24th, the patient having been placed under chloroform, an attempt was made to reduce the fragments into position, with the intention of inserting an ordinary vulcanite interdental splint, but through the muscular antagonism and great displacement it failed.

A few days afterwards he was again placed under chloroform, and this time the fragments were reduced into fair position; unfortunately the patient, having had an attack of bronchitis, coughed the fragments entirely out of place. His health gave way, and Mr. Savory deemed it unadvisable then to attempt to further reduce the jaw at the risk of his life. However, in a fortnight he rallied considerably, and it was determined to make a double splint so as to fit both maxillæ; in case of a renewal of bronchitis there would be less danger of the fragments separating.

On the 28th of October he was placed under chloroform, and the bone was set with very little difficulty, and a bandage applied to the chin. From that date the patient progressed favorably.

On the 24th of November no movement could be detected between the fragments, and although he had a renewal of bronchitis the splint was immovable. Abscesses supervened on both sides externally, and opposite to the posterior fractures. He left the hospital in January, 1877, for the Convalescent Home at Highgate. At that time there was not the slightest deformity, and the jaw was useful for all purposes.

CASE 7.—George Anderson, æt. 8, was admitted September 8th, 1877, under the care of Mr. Holden. Through being run over by a cab he sustained a fracture on the right side of the lower jaw, between the temporary canine and permanent lateral incisor. There was considerable abrasion and swelling on that side, and bruising of the left. The cab-wheel passed over his face. There was considerable displacement at the seat of the fracture; the right fragment being raised much higher than the left. On the 14th the swelling subsided.

On the 24th a vulcanite splint was inserted and a bandage applied to the chin. An abscess formed in the floor of the mouth and discharged, and there was a large amount of necrosis.

November 10th.—Mr. Holden determined to perform sequestrotomy. The floor of the mouth was laid open, an incision being made along the line of the chin, and a piece of bone which contained the crypt of the permanent canine with the tooth brought away. The patient progressed rapidly. On the 21st of December he was discharged from the hospital.

CASE 8.—Alfred Raynes, æt. 38, ostler, was admitted December 8th, 1877, under the care of Mr. Callender. Through a kick from a horse he had sustained a double compound fracture, one situated between the canine and lateral incisor on the right, and the other between the second and third molar on the left side, which was also compound externally by a large incised wound extending two inches in length on the cheek.

On the 18th a vulcanite interdental splint was inserted. Owing to the great displacement it was found impossible to apply any other kind of splint.

This patient progressed favorably from the commencement, and was discharged from the hospital in four weeks.

THE EFFECTS OF A FIXED IDEA.—*To the Editor of the Lancet.*—SIR,—The following case, showing the curious effect of the imagination on a healthy and strong man, may be interesting to your readers, and throw some light on several cases of hydrophobia lately reported.

A gentleman, æt. 56, was away from home, and was dressing in the morning, when his mouth and nose suddenly filled with blood. He then became aware that his false teeth, which he seldom removed at night, were missing. He fancied he felt them in his pharynx, and imagined he had swallowed them during sleep. He became greatly alarmed, and immediately sent for my partner, Mr. Atkins, to whom he told the above story, and drew his attention to a hard swelling behind the larynx. Mr. Atkins examined this, which was certainly suspicious, and thrust his finger as far down the throat as possible without feeling anything internally. The patient persisting that the teeth were in the pharynx, I was telegraphed for, to bring instruments, &c.

When I arrived I found the patient in bed, with intense anxiety depicted on his countenance, with a rapid, small pulse; and when I asked him a question, he motioned for pen and paper to communicate with me. Neither I nor Mr. Atkins could now discover any external swelling, though the patient implied by gesture that it was apparent to his own touch. I examined him with the laryngoscope with difficulty, the throat being very sensitive; and, seeing

no signs of the missing teeth, I asked him why he could not speak, when he replied, "Oh! I can speak; but Mr. Atkins told me not to talk." I now introduced a probang into the throat, and the patient said he felt me touch the teeth, just behind the cricoid cartilage. I was afraid to attempt to push the probang forward, as the teeth were described as almost a complete set of lower molars; so I bent a ten-inch military silver probe and hoped to hook the teeth up. I once or twice struck something which felt hard, and the patient then said that I moved them, but the spasms both of pharynx and larynx were so severe, and the amount of glairy mucus ejected was so great, I had scarcely got the probe down before I had to withdraw it. After a few more explorations I came to the conclusion that it was an elongated horn of the hyoid bone and no foreign body that I struck against, and I was confirmed in this opinion by finding that the patient could swallow fluids without any difficulty. I told him I thought he was mistaken, and ordered a search of the room, when shortly the missing teeth were found on the top of a chest of drawers.

The patient's surprise may be imagined. All his symptoms immediately disappeared; he dressed and ate an excellent lunch.

My explanation of this curious case is that the patient's nose commenced bleeding when he was dressing; this first drew his attention to the absence of his teeth. He forgot he removed them the night before; being in a strange house did not know where to look for them. There was probably a clot of blood in the pharynx, and this imagination magnified into the teeth. Some spasm of the pharynx produced the hardness he and Mr. Atkins felt on arrival. The rest was purely the effect of a fixed idea, which in this case was fortunately removable by the production of the supposed cause; had that not been possible, I can quite understand, from the nervous condition of the patient, that even the dreadful symptoms of hydrophobia might (had that been the fixed idea) have been produced, the excessive secretion from the pharynx having already commenced.—Yours obediently,
E. M. WRENCH, F.R.C.S. Exam.

SUGAR AND TEETH.—The 'Medical Journal' of Charleston, S.C., thus stated the conclusions of M. Lerez:—"1. Refined sugar injures teeth—either by immediate contact, or by gas developed in the stomach. 2. That a tooth soaked in sugar-water becomes jelly-like, from the sugar combining with the lime of the tooth."—*Chemist and Druggist*.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Enclosed I send you a list of members elected as officers, &c., of the Odontological Society for the ensuing year, and should feel obliged by your kindly inserting it in your Journal.

I am, &c.,

F. CANTON, *Hon. Sec.*

AT the Annual General Meeting of the Odontological Society of Great Britain, held January 12th, 1880, the following members were elected as officers and councillors for the year 1880:

President.—Alfred J. Woodhouse, Esq.

Vice-Presidents.

(RESIDENT.)

Charles James Fox, Esq.

T. A. Rogers, Esq.

J. Walker, Esq., M.D.

(NON-RESIDENT.)

David Hepburn, Esq. (Edinburgh).

Alfred Mcara, Esq. (India).

J. E. Rose, Esq. (Liverpool).

Treasurer.—James Parkinson, Esq.

Librarian.—Felix Weiss, Esq.

Curator.—C. S. Tomes, Esq., F.R.S.

Honorary Secretaries.

Ashley Barrett, Esq. (for Foreign Correspondence).

S. J. Hutchinson, Esq.	F. Canton, Esq. (Society).
(Council).	

Councillors.

(RESIDENT.)

E. B. West, Esq.

J. S. Turner, Esq.

T. Underwood, Esq.

Oakley Coles, Esq.

W. H. Woodhouse, Esq.

Edwin Saunders, Esq.,
F.R.C.S.

T. C. White, Esq.

G. Wallis, Esq.

W. F. Henry, Esq.

(NON-RESIDENT.)

J. Doherty, Esq. (Dublin).

W. R. Wood, Esq. (Brighton).

W. Hunt, Esq. (Yeovil).

T. W. G. Palmer, Esq.
(Cheltenham).

T. J. Browne-Mason, Esq.
Exeter).

W. Williamson, Esq. (Aberdeen).

THE ODONTO-CHIRURGICAL SOCIETY.

ORDINARY MEETING, DECEMBER 11TH, 1879.

WALTER CAMPBELL, Esq., L.D.S., President, in the Chair.

THE minutes of the previous meeting having been read and approved of,

Messrs. James Macintosh and Richard Cobden Macintosh, Edinburgh, were proposed for membership by Mr. Macleod, L.D.S., seconded by Mr. J. R. Chisholm.

Some private business having been transacted the meeting became conversational, the chief subjects being the Report of the Committee of the Odontological Society on certain recent fillings, the preparation of canals in roots for filling, &c.

Mr. G. W. WATSON exhibited Mr. Richardson's Dental Chuck, &c.

Mr. HEPBURN showed the model of a case of retention of most of the temporary teeth to the exclusion of those of the permanent series.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

ORDINARY MEETING, DECEMBER 8TH, 1879.

ROBERT HALL WOODHOUSE, Esq., M.R.C.S., L.D.S., President, in the Chair.

THE minutes of the preceding meeting were read and confirmed.

Mr. R. Turner was balloted for and unanimously elected a member of the Society.

Mr. A. F. Baudry was proposed for election at the next meeting.

Mr. L. READ described and showed the apparatus used in a case of regulation lately under his care, in which he had twisted on its axis an upper lateral incisor by means of elastic bands fastened to hooks projecting from a collar accurately fitted to the neck of the tooth, and gaining their *point d'appui* from a vulcanite piece.

Mr. ROBINSON was then called on by the President to read his paper, entitled "Notes on Dental Surgery."

MR. PRESIDENT AND GENTLEMEN,—The subject of the paper I have the honour of reading before you this evening can be enlarged to such an extent that it would be impossible for me to treat it entirely in one evening, therefore I purpose touching upon those parts met with in ordinary daily practice.

The surgery is a stronghold, inasmuch as it is there the

operator and patient are brought into contact, and opinions of each other mutually gained. When a person seeks the aid of a Dentist for the first time he no doubt presents himself with feelings of curiosity, sometimes fear, but with implicit faith in the operator and his skill to do the work well. This ought to be done in such a manner that should the patient go to other parts of the kingdom or abroad, and put himself in the hands of other men, he would not be ashamed on his return to give you a verbatim report of the opinions expressed by unbiassed strangers.

The dental pulp is one of the most sensitive parts of the body, and may become the seat of great pain and morbid phenomena. The three principal affections we have to deal with are—

I. Irritation of the pulp.

II. Acute inflammation of the pulp.

III. Chronic inflammation of the pulp.

Irritation of the pulp may be caused by the transmission of thermal changes conveyed to it through a metallic feeling and intervening highly sensitive dentine respectively. When such is the case the feeling should be cut out, and the sensibility of the dentine allayed by the use of any of the following applied to it:—Chloride of zinc, chloroform, carbolic acid, cobalt.

The thirtieth or fortieth part of a grain of arsenic, with an equal quantity of sulphate of ammonia, has been freely used by American Dentists, but I cannot say I agree with its use for this purpose, or with that of the French, who use the actual cautery, as both plans may injuriously act on the pulp.

Chloride of zinc is used very extensively, and acts well; it may be applied to the dentine either in the stick or as a paste, made by mixing it with an equal amount of flour, the moisture gained from the air reducing the stick to a liquid. In this form it may be left in the cavity for half an hour or longer, if the gum, if protected by rubber dam, is on the tooth.

Secondly. It may be caused by the exposure of sensitive dentine through the use of the file. The surface should be kept clean, and chloride of zinc applied in front teeth. Nitrate of silver in the solid form may be applied to surfaces not likely to show the black stain by wrapping round it a layer of wax.

When a cavity from which was taken the metallic plug has to be refilled, non-conducting materials, such as asbestos, oiled silk, gutta percha, or an oxychloride filling, must be placed between the dentine and new plug, more especially in the vicinity of the pulp.

Irritation of the pulp may cause a deposit of secondary dentine.

II. *Acute inflammation* is caused by the perforation of the pulp cavity, either by caries or fracture. Food collects in the cavity, at first causing no inconvenience; after a time sugar, salt, or acids give rise to acute pain, which increases until it gets to a throbbing character, subsiding to return on the least provocation, and, after two or three attacks, dies.

Treatment.—If the pulp is not disorganised by dressing it with carbolic acid, creasote, &c., it may become healthy and be capped; but if of a deep red colour, bleeding when touched, it is better to destroy and remove it.

III. *Chronic inflammation* "may arise independently of caries or injury, but is nearly always due to an opening into the pulp cavity."

The pain is less active than in acute; the pulp may be exposed for some time only, causing momentary twinges, the liability to ache increasing as the exposure gets larger, comes on at irregular intervals, and a discharge of a phosphatic odour is given off from the pulp, which bleeds readily on being touched.

Treatment.—The destruction of the pulp is generally resorted to, as it is found useless trying to produce a healthy state in this stage. Nature plays an important part in the treatment of inflammation of the pulp, for, as in other parts of the body, that internal force is necessary which, as Clomel says—"presides over all the phenomena of life, contends unremittingly with physical and chemical laws, receives the impressions of deleterious agents, reacts against them, and effects the resolution of disease."

Alveolar periostitis, or periodontitis, is an inflammation of the investing membrane of the roots of the teeth; is acute or chronic when local.

Causes.—Inflammation of the pulp; remains of a dead or decomposed pulp; pressure on a filling; mercurial remedies; mechanical injury; syphilis; scrofula; rheumatism, general periostitis being caused by phosphorus necrosis.

Symptoms.—A slight uneasiness about the affected part; the tooth seems elongated, and gentle pressure giving relief, the pain returning on the pressure being discontinued; the gum about the root inflamed; a discharge may occur from between the edges of the gum and neck of the tooth, which gets quite loose, the slightest pressure causing severe pain.

Treatment.—Apply Tr. Iodi et Aconite equal parts to the gum, three or four times daily; leeches may be applied. When suppuration takes place extraction may be necessary.

Cantharidal collodion is very good ; the gum should be dried, and the application made by means of a camel-hair brush, care being taken to protect the lip and prevent moisture interfering before the ether has evaporated ; it leaves an artificial cuticle and causes a blister, but usually effectually relieves the periostitis.

If this periostitis is not checked it causes an alveolar abscess, which may run on to suppuration, and end in necrosis of the jaw.

Alveolar abscess is an effusion of lymph at the end of the root of a tooth, condenses into a sac, the walls of which become vascular and perform the functions of secretion and absorption, pus forming in the centre. The outer wall of the alveolus is distended, and being broken, the pus forces its way through, leaving a jagged fistulous opening in the gum. If the tooth is of great length it may force its way through the base, gum, and cheek in the lower jaw ; or into the antrum or palate in the upper. When the pus is accumulating it causes great pain, which subsides on the discharge taking place. The abscess may be formed in times varying from three to fifteen days.

Causes.—Acute inflammation of the periosteum ; mechanical violence ; remains of a disorganised pulp in the canal ; death of a pulp after the insertion of a filling ; or the pushing of a dressing or piece of gold through the foramen.

Treatment.—If the tooth is filled remove the filling, and thoroughly clean out the pulp chamber and canal, or canals ; when this is done creosote or carbolic acid may be passed up on cotton wool loosely, the cavity in the crown being filled in with cotton wool only for the first three or four dressings. The contents of the abscess should be discharged if no fistulous opening has formed, and a piece of silk or wool saturated with glycerine and carbolic acid placed in the incision so as to prevent the reunion of the gum.

Pure carbolic acid may be forced through the sac and fistulous opening by using Dr. Farrar's alveolar abscess syringe. As it appears on the gum it should be wiped up with amadou, and all acid coming back falling on the rubber dam, which should be put on to protect the mouth. Another plan is, to an ordinary vulcanite syringe make a small gold or platinum tube, thin enough to enter a canal ; have a piece of wire the same size and insert this into the canal, filling round it with gutta percha tightly, then withdraw the wire and insert the tube ; the fluid is compelled to proceed, the gutta percha effectually blocking its return. When there ceases to be a deposit on the cotton wool a dressing may be again placed up the canal, and the tooth sealed with a

gutta percha or osteo filling. When the pus is likely to discharge through the cheek or body of the lower jaw, the tooth and, if broken, every particle of it should be extracted.

Necrosis and exfoliation of alveolar process is a disconnection between the periosteum and alveolar process, as may be often found after the extraction of a tooth. Exfoliation is the effect of nature in exuding the bone as a foreign matter; a discharge occurs during the period from the gum and necks of the teeth.

Causes.—Immediate cause, death of periosteum occasioned by inflammation from dental irritation, fever, syphilis, mercurial medicines, and mechanical injury.

Treatment.—Remove all loose pieces coming up; cleanliness enforced; Zinci Chlor. gr. viij to ʒj of water, or Tr. Myrrh. may be used to correct the offensive odour from discharge; Condy (or Permang. Potass.) is useful for this purpose.

Gradual destruction of alveolar process is a wasting of the socket of the tooth, the gum receding, and is accompanied by a discharge when the gum is pressed.

Causes.—In aged people, supposed to be a loss of vital power. Salivary calculus and pressure of the surrounding teeth are causes advanced, but no definite cause has been explained.

Treatment.—Remove all irritants; nitrate of silver gr. xx to ʒj of water may be applied to the edge of the gum.

The models I produce show a lower incisor, the fang of which was quite exposed, the labial portion of the process being absorbed. The mouth being crowded I extracted the tooth, and now the lateral and incisor tooth and the gum has taken a normal position round them. Patient aged 17.

Erosion is a gradual wasting away of the enamel on the labial surface of the teeth at the margin of the gum, appearing on separate teeth, the enamel not changing colour, but the dentine teeming with worms, being exceedingly sensitive, and having a polished surface, it may expose the pulp if allowed to proceed.

Causes.—No satisfactory cause has been explained. Mr. Hunter termed it "decay by denudation." Messrs. Bell and Fox do not fix on a "definite cause, but believe it to be dependent on some solvent quality of the saliva." Mr. Tomes agrees with this, and all consider the mechanical action of a toothbrush insufficient. This was proved by Dr. Murie, who found it in the tooth of a sea lion, and by Dr. Parnby, who found a natural tooth set on a gold plate attacked; it is also found in mouths where the application of a toothbrush would be beneficial.

Treatment.—Enlarge the cavity and fill permanently, the

application of chloride zinc, &c., as used for irritation of pulp, through sensitive dentine making it less painful for the patient. Should the gum have grown over the cavity, or the cavity extended under the gum, it may be pressed back by firmly packing in cotton wool and gum sandarach or mastic.

Fracture and injuries of the teeth from mechanical violence frequently occur. The same amount of force from a blow or fall inflicts different amounts of injury, according to the physical condition of the teeth and tone of the constitution. The incisors, on account of their prominent position, are most frequently injured or broken.

If the tooth has simply lost a corner of enamel or a portion of dentine, and is not loose, the removal of the rough edge with a file and polishing the surface will be a sufficient remedy; but when the tooth is loose, and inflammation of the investing membrane set up, the treatment for periostitis should be adopted until all such inflammation ceases.

When the tooth is forced from or driven up into its socket it may sometimes, after having been drawn into its proper position and attached to a splint, all pressure taken off, get firm, but, as a rule, when the force has been so great, the vascular connection is severed, and necrosis of the tooth follows.

Should a portion of the crown of a tooth be broken off, and the fracture go lengthways of the tooth, so as to split it and expose the pulp, it is better to extract; but when a transverse fracture occurs, the crown being broken off level with the margin of the gum, the remaining portion of the pulp, after having been touched with strong nitric acid, should be removed and the root pivoted. If a root or tooth is replanted it should be thoroughly cleared out, the canal sealed, and when in position kept clear of pressure by capping it with its adjoining fellows with gutta percha, the socket being previously cleansed of all coagula.

Mr. Hutchinson, our late President, mentioned a very interesting case he treated last winter. Mr. Read also had a case he successfully treated (cases mentioned).

Odontalgia, or toothache, is the general cause of attendance on the part of the patient; it is a symptom of functional or structural disturbance of the organ in which it is seated, and has a variety of causes—1. Exposure of the pulp. 2. Fungus of nerve. 3. Confinement of pus in the internal cavity. 4. Morbid conditions of the periosteum; exostosis. 5. Sympathy.

1. Immediate relief may be given by carefully clearing out all deposits of food, &c., in the cavity of the tooth, and

cutting away as much diseased tissue as is necessary to get well at the exposure, and applying creosote, laudanum, weak carbolic, oil of cloves, or chloroform, filling in with a solution of mastic or gum sandarach on cotton wool. If the pulp is at all inflamed the dressing chosen should be renewed until it assumes a healthy appearance—that is to say, a delicate pink; then, after capping with court plaster, parchment, or cork, an oxychloride filling may be placed at the bottom of the cavity, and a metallic plug inserted. I prefer the following plan:—After having dressed the tooth once or twice, prepare the cavity (having put on the rubber dam) as for the retention of the permanent plug; get a piece of platinum plate about No. 4, cut off a piece large enough to cover the exposure, with its edges resting on the surrounding dentine; with the pointed end of an egg-shaped bur-nisher press the piece of platina on wood until it assumes a saucer shape; then with the end of a broken excavator, filed on each side, punch a hole in the centre; this causes two edges to be produced on the exterior or convex side; fill the interior or concave side with a mixture of oxide of zinc and oil of cloves; grasp the cap by the two edges, and place it over the exposure, in such a position as not to interfere with the shape of your cavity, but when pressed upon it causes no pain; the cavity may then be filled with gutta percha, the patient dismissed for a month, with instructions to attend at once if any inconvenience arises in the tooth. This plan is preferable, as the exposed pulp is entirely shielded from pressure, and is able to hermetically seal the cavity, which contains nothing to irritate.

Another system is to dissolve gutta percha in chloroform, and after having cleared the diseased tissue away as much as possible, apply the solution; the chloroform eases and soothes the pulp, and on its evaporation leaves a coating of gutta percha to shield it from moisture, &c.

(2) and (3.) Inflammation of the pulp, already described, is the cause of fungus of pulp, and confinement of pus.

(4.) Periostitis causes the morbid conditions of the periosteum.

Exostosis is a deposit of osseous matter on the roots of the teeth, or is hypertrophied cementum. When the cause of odontalgia it is difficult to distinguish the offending member, the pain being of a neuralgic character, but after repeated attacks the tooth becomes sensitive both to the touch and thermal changes. Extraction is the only cure when thoroughly formed.

(5.) *Sympathetic* odontalgia is the result of "exalted sensibility of the dental nerves," occurring in persons of

highly nervous or excitable temperaments, pregnant females, and those with derangement of the digestive organs, rheumatism, or gout. Mr. Fox quotes a case where "he extracted the carious teeth but no diminution of the pain followed, and suspecting the nature of it he took the patient to Sir Astley Cooper, who by dividing the affected nerve produced a radical cure." It is very difficult sometimes to say positively which is the offending tooth, as the seat of pain may be a sound as well as a carious tooth. Dr. Wood says, "when it occurs in sound teeth it is paroxysmal in its character, attended with little or no swelling of the external parts, and occupies a considerable portion of the jaw."

Treatment.—Remove carious teeth likely to keep up the pain, constitutional treatment overcoming this kind of pain in rheumatic or gouty patients, and applies to those who, through the derangement of the digestive organs, have an increased vascular or nervous irritation of the pulp. Change of air, tonics, and exercise may be recommended.

As it is necessary to destroy the vitality of the pulp and remove it to perform a cure for odontalgia, I will say a few words about the methods of doing so, which are three, viz. :

I. Immediate extirpation.

II. Actual cautery.

III. By means of arsenic.

Immediate extirpation consists in pushing a small broach, with barbs extending some distance down it, up the canal, rotating it, and drawing it down again ; if success attends you, the pulp with it.

Another instrument used is Donaldson's bristle ; this has but one barb at right angles, and situated at the extremity. When this is rotated it excises the pulp, which may be cleared out easily without further pain. The advantage in using this instrument is that it has not the susceptibility to break as the first.

II. *Actual cautery* is seldom used on account of the pain it causes. A piece of wire is heated to a white heat and thrust up the canal.

III. The use of *arsenious acid* for the destruction of the dental pulp originated with the late Dr. Spooner, of Montreal, and in 1835 was introduced to the profession by his brother, Dr. S. Spooner, New York.

One sixteenth part of a grain applied on cotton wool saturated with creosote to the exposed surface will, as a rule, devitalise the pulp ; sometimes, however, a second dressing is necessary. It is also applied in the form of a paste made up of equal parts of arsenious acid, sulphate of morphia, and

creosote. When applied in either form the cavity in the tooth should be thoroughly sealed with wax, covered by mastic or cotton wool, or with gutta percha, this being put in lightly. It may remain for twenty-four hours, and at the expiration of that time the removal of the pulp may be accomplished, by using the extirpating instruments, without much inconvenience to the patient.

Necrosed teeth.—This term is applied to teeth having either partially or wholly lost their vitality. This may occur on the death of the pulp, disconnection between the cementum and periosteum, death of the cementum, and is produced by mechanical injuries or external violence, continued use of mercury, and caries.

After the death of a pulp the tooth receives its vitality through the investing cementum and periosteum; the crown of the tooth changes its colour, becoming a blue black or muddy brown, more especially when the cause is a fall or blow, and occurs in the teeth of young persons, and is due to the presence of disorganised tissue and matters in the pulp and chamber and the absorption of it by the dentine through its tubuli.

If the connection between the cementum and periosteum is severed the tooth will be exuded as a foreign substance, and should any inflammation be set up by its presence or cause the gums to become spongy, remove it and help nature to do its work.

Necrosis may occur in the cementum, the pulp remaining intact. The gum recedes from the neck of the tooth, which becomes loose and is painful, hot or cold water increasing it, but the crown does not change its colour.

Treatment.—Open the pulp cavity, thoroughly cleanse it and the roots of their contents—rather tedious work sometimes, as you know; pack up loosely cotton wool saturated with either carbolic acid or creosote, the crown cavity being filled with cotton wool only for the first few dressings. When there is no offensive odour the root dressing may be firmly packed up and the cavity sealed with gutta percha, and left for a period extending from two to six months. If at the expiration of that time no inconvenience has been felt by the patient, and no odour attached to the root dressing, a permanent plug or an osteo filling may be inserted, the root being filled with a creosote dressing, which is preferable as a final dressing to carbolic on account of its oily nature. Another way is to finally fill the root or roots with a mixture of oxide of zinc, chloride of zinc, and carbolic acid, of a creamy subsistence; this sets, seals the fang, and the carbolic is always kept fresh. I have tried it in several dead

teeth, and have found it to act successfully up to the present. Should such a thing happen as the loss of the plug no moisture can get up the canal and cause you the trouble of dressing, which I consider is an advantage. I have also used for the last month or so salicylic acid in solution with alcohol or ether for a disinfecting dressing, and certainly, although rather troublesome to work, its effect is very good. Necrosed or dead teeth may have their original colour restored by the use of bleaching agents, such as chloride of lime, chloride of soda, Labarraque's disinfecting fluid, and oxalic acid. These, after all diseased tissue has been removed, decompose organic substances by removing the hydrogen from the colouring matter. After having closed the foramen, or partially filled the root with gutta percha, any of the above named may be placed in the cavity on cotton wool or lint, and allowed to remain till the desired colour is gained. Chloride of lime should only be left in for five or ten minutes at a time, and should be covered so as to shield the tongue. Strong spirits of camphor have recently been recommended by Dr. J. Witherbee, at a meeting of the American Dental Association, as an excellent bleachant, it dissolving the substances in a short time, as well as permeating the hard tissues.

In the number of children attending we often have to call attention to the state of the gums as well as the teeth, and in certain conditions treat them. The gums are, as it were, the weather-glass of the constitutional health, and the "innervation of vital power causes this susceptibility to morbid impressions."

I will first run over inflammation of the gums and stomatitis, touching lightly upon them, as time presses.

Inflammation of the gums may be acute or chronic. The former is, in the majority of cases, local, appearing under a variety of forms, and is, if not caused by dentition, overcome by constitutional treatment. Chronic inflammation is more difficult to remedy. The gums are spongy, and their edges leave the necks of the teeth, the surface is nodulated, and on being pressed purulent matter is discharged from the edges. They bleed on the slightest friction, and are more or less sensitive to touch. This state may occur in the gum round one or several teeth.

Cause.—The exciting cause is the presence of an irritant, such as salivary calculus, carious or dead teeth, roots with rough edges, and mercurial medicines.

Treatment.—Remove all tartar and roots causing irritation. Dead or loose teeth, if keeping up the inflammation, should be removed. If the gums are considerably swollen scarify

them with a sharp lancet, and apply iodine. Astringent lotions should be used as mouth washes after the use of the toothbrush. I find tincture of tannin is an excellent astringent if applied after the gums have been lacerated. Tannic acid rubbed in is also good. Phenate of soda, a teaspoonful in a tumbler of water, will prove beneficial, but as you will find numerous recipes in 'Journ. Dental Materia Medica and Pharmacopœia' I will leave you to choose.

Stomatitis is an inflammation of the mouth, generally appearing in patches. In its simple state they are red, and may be cured by the use of astringent medicines.

Its other forms are—

1. Aphthous, or follicular stomatitis.
2. Ulcerative.
3. Gangrenous, or cancrum oris.

1. Aphthous or follicular stomatitis consists of ulcers, more especially near the frænum, under the tongue, and between the lips, and occurs at an age varying from seven months to three years, and falls more within the province of the surgeon.

2. Ulcerative is the variety most frequently met with; occurs between the ages of five and twelve. It consists of an ulcer, the surface of which is covered by a yellow skin, on the removal of which is found red tips on a yellowish ground. The edges are rough, of a colour between violet and red. The mucous membrane of the cheek is affected when brought in contact with the ulcer. It commences, as a rule, in the front of the gums, and is found most frequently in the lower jaw.

Causes.—Imperfect nourishment and dirty habitation, or, when there is a predisposition, carious teeth will become exciting causes.

Treatment.—Pot. Chlor. gr. iij, ʒj to v, every four hours. Nutritious food should be given.

Nitrate of silver applied to the ulcer causes it to form "a superficial slough, after the removal of which a healthy granulating surface is left." Condy's fluid may be used as a disinfectant.

Gangrenous, or cancrum oris, consists of an irregular ulcer with red edges in the middle of a hard, dense swelling, comparatively painless, giving out a gangrenous odour. The face swells, and there is a great quantity of saliva. It increases with great rapidity, the cheek being eaten through, and terminating in the death of the patient.

When recognised the patient should be given over to a medical practitioner. The strongest nitric acid should at once be applied to the surface of the ulcer.

Of course there are several other branches, such as den-
tiferous cysts, odontomes, &c., I have no time treat; and as
papers have been read on Hæmorrhage, Extraction, Caries,
Treatment of Irregularities, and Gold Filling, and each are
respectively fully and ably discussed, I have not thought it
necessary to mention them. And as I now, gentlemen, have
already trespassed too much upon your time and patience, I
will leave the subject, the value of which I feel myself un-
able to worthily treat; but I trust that from your discussion
I may learn something new, which, if added to the opinion
I have expressed, may benefit some of you.

Thank you sincerely for your patient hearing.

The paper, which was very comprehensive, was followed
by a discussion, in which the President and Messrs. Ackens,
C. D. Davis, S. J. Hutchinson, Rees Price, L. Read, and
Robbins, took part.

Mr. ROBINSON having replied to the questions put to him,
the meeting terminated with a unanimous vote of thanks
to him for his able paper.

Miscellanea.

OFFICE HINTS.—No. II.

COLLOQUIALLY GIVEN FOR THOSE WHO LIKE TO READ THEM.

“Justum et tenacem propositi virum.”

Fees.

Verax (loq.)—Glad you enjoyed your dinner after your
long journey this cold weather. As Shakspeare says, “May
good digestion wait on appetite and health on both.” Capital
wish from a Dentist, my friend, is it not? for himself and
his patients. How much better both would fare if the latter
knew how much good digestion depends on thorough masti-
cation and thorough mastication on a set of natural teeth in
masticating order.

Tenax.—I wish I had a good set of masticating teeth.

V.—You are not likely to if you go on having them
ripped out as you do.

T.—Well, you know, if a tooth is once dead sooner or
later it will ache, and out it must come.

V.—So you think; but I do not. Nine out of every ten
may be saved, but we will talk of that another night. Now,

to-night, if you feel inclined to have a shop talk, I propose a talk about fees, because gentleness with good work is impossible without a proper method of making your fees.

T.—It would be quite impossible for you to propose any subject in which I take a deeper interest, and I think I may add in which the whole Dental profession take a greater interest, than the matter of fees.

V.—Well, now, I will begin by saying that every member of our profession has a perfect right to charge exactly what he likes; therefore, the amount of remuneration that he may consider himself entitled to is simply a matter for himself to decide. But in order that he shall succeed in practice it is necessary that his system of charges shall be so based as to bear reasonable argument. 1st. Fees must be based on the operator's skill, knowledge, and position in his profession, not on the patient's paying powers. 2nd. Fees must be based on the time consumed in doing work, not on a hard-and-fast line of so much a tooth or so much a stopping; for it is quite clear that you may stop one tooth for Mr. Smith, who sits still and does not talk or fidget, in half an hour; and exactly a similar tooth for Mr. Jones shall take you to do, no whit better, one hour and a half. Mr. Jones ought, therefore, to pay three times as much as Mr. Smith.

T.—I follow you, and think your argument sound. But supposing a patient objects, or comes late?

V.—In the first case, advise the patient to seek another Dentist; in the second, caution once, charge next visit for wasted time, on the safe base that a Dentist's time is his money.

T.—But think what a number of patients would be lost!

V.—And think how much better the ship would be ballasted; besides which, it is impossible for any one to be gentle and yet do good work unless he is methodical, systematical, and firm, and never in a hurry. You may be quite sure that the best practice for paying purposes is one that runs evenly all the year round, one that is never "awfully busy" or "dreadfully slack."

T.—That is no doubt true; but say, for the sake of argument, that a patient engages two hours, that when he comes he brings his wife and three children, that you attend to all five, and that when the time is up you have performed two operations for each of the five, surely you would not charge the same as if you had taken two hours to fill one tooth?

V.—Indeed I should.

T.—Well, suppose those five people came, and there was nothing to do for any one of them?

V.—I should say, two hours so much.

T.—But how horror-struck some patients would be!

V.—Just what they ought to be for the future; they would learn not to write for two hours without being sure they required it.

T.—Well, but how are they to be sure?

V.—I would suggest that every Dental surgeon should fix on one or two hours every day for consultation hours, and let the patients know what those hours are. During those hours there should be no appointments made, but the patients should be seen in the order in which they arrive. Patients who make an appointment for a subsequent visit pay no fee. Those to whom you convey the joyful news, "Your mouth is in perfect order," ought to pay with pleasure your minimum fee, as most assuredly ought those who consult you only to insult you by not following your advice.

T.—You say your minimum fee. How would you base it?—how defend it?

V.—My minimum fee is based on half an hour. As to the defence of it, I do not see that any defence is required, because if a patient chooses to keep you half an hour, that time is at his or her service; and if the patient does not choose or require that amount of time, that is no concern of the Dental surgeon.

T.—Well, this is very interesting to me, and I am beginning to look at things relative to fees from a different standpoint. Let me ask you one question. In cases of treatment of dead teeth, separating teeth by wool wedges, dressing sensitive teeth, &c., how would you charge?

V.—Simple enough. As your patient enters your office note the time, ditto on leaving, put the number of minutes against the name. When the case is completed add them together and charge at the rate of so much each half hour or portion of the last half hour. Thus, say in a case of a dead tooth, six visits, averaging twelve minutes each visit, $6 \text{ times } 12 = 72 = 1 \text{ hour } 12 \text{ minutes}$, and 2 hours' plugging, 3 hours 12 minutes. Charge seven half hours.

T.—But in many cases a fee of that sort would very likely be resisted.

V.—Possibly. But it is based on such a reasonable ground that I think it could be recovered. If patients are so foolish as to permit their teeth to get into such a condition as to require all this time and care, why should they expect the Dental surgeon to bear the labour of it without adequate remuneration, or why expect him so to arrange his fees as that by charging so much per filling he should make his sensible and reasonable patients, who came three or four times

a year for inspection, and who have every tooth filled as soon as caries is discovered, pay for those stupid ones who never go to a Dental surgeon until driven into his chair by suffering. Because that is really what the matter resolves itself into.

T.—Well, I must say, I think you have the best of the argument.

V.—And that the best base to fix your fees on is—

T.—Time.

G. P.

RAMBLING THOUGHTS ON THE PRESENT CONDITION OF DENTISTS.

BY AN OLD PRACTITIONER.

RECENT events have made me think. I am not able to do much now, but I cannot help thinking.

I'm an old man now, and an old Dentist, but though I cannot do much I *can* think, and I thought one day that I would send my old thoughts to the old Journal. I say the old Journal; I mean the old Dental Journal. I don't think there is any much older. I fancy there is one in America somewhat older, but it went to sleep during the war—that sad, sad war; like everything American, however, it woke again with renewed vigour; but when I say the old Dental Journal I mean the 'British Journal of Dental Science.'

I told the Editor one day *he* went to sleep sometimes; he replied, No, never! What, never? Well, hardly ever! And I don't think he *quite* goes to sleep *ever*, only with one eye open. Well, as I said before, I'm an old man now, and people often think I am going to die, but I don't; and people often think the old 'British Journal of Dental Science' is going to die, but it don't; it has seen many Dental journals born and die, and it may yet.

Journals may come and journals may go,
But it goes on for ever.

What, for ever? Well, hardly for ever! but, like me and the creaking door, it may last perhaps longer than it is liked or wanted. I'm an old man now and, like many old men, rather inclined to be garrulous. I have lived a quiet life for many years and watched the course of events as they flowed by me. I haven't done much lately, but I have thought, and one day I told "our mutual friend," the Editor, some of my thoughts, and he said "Put them on paper and let me have them;" but I said I can't write them in order. "Never mind, write them down as they come, and if they don't suit me the paper

will do to light my fire with when I get up in the morning to write, and if I do print them and my readers don't like them, they can light *their* fires with them." Well, I'll try, but I can't write grammar. I did try to write once, and some one said they would send me a copy of 'Lindley Murray's Grammar,' but they didn't, so I don't know any better than I did then. However, I'll try again and put down some of my thoughts; only you must remember the old man, "Senex," is sure to wander sometimes from one subject to another, just as it comes into his old head.

Well, as I say, being too old to do much now or to *say* much at Dental meetings, I've thought the more, and my thoughts have carried me back to the issue of this Journal for October 15th, 1879, wherein, at p. 632, I find that Mr. Fox resigned his position as an officer and member of the new British Dental Association, which has been founded by the very men whom he first brought together as the Dental Reform Committee. Why, then, should he leave them? Because, he says that, on reflection, he considers that it is opposed in every sense to the principles upon which his first draft of the Dental Act, made in November, 1870, was based, and to the principles upon which *alone* Sir John Lubbock (who introduced the Bill into Parliament) has himself declared the Bill could have become law—that is, the recognition of all existing rights. But there is the rub. What *are* existing rights? We shall not get along very well until that question is settled for us by some competent legal authority. At present there seem to be as many different opinions as there are individuals entered on the Dental Register, in the belief that they are only claiming the exercise of their existing right. I shall not now enter further into that question, I want to hear a little more upon it from others first; meanwhile, I do not think we should blindly pin our faith upon the dictum of one or two people however eminent their position, and however much indebted we may be to them for the persistent manner in which they finally carried the Bill through Parliament in the face of an opposition, which arose chiefly from their disregard of what the surgeons considered *their* existing rights. It was a curious exemplification of the old saying, *Extremes meet*; on the one hand, there was the opposition, and claim for respect for their "existing rights," from what, for the sake of comparison, I will call a low order of Dentists, that is, the Chemist-Dentists, who, by the way, is often a much better Dentist and better educated man than many a so-called pure Dentist; and, on the other hand, there was the extremely high order of Dentists, who said they were medical men first and Dentists after, so that

it is easy to see that the great questions of existing rights, upon which so much turns, is open to a very wide and various interpretation, and I certainly think that men should pause ere they commit themselves to a blind following of certain gentlemen who have a very pleasant, plausible way of expressing their opinions of the hour, but who, reviewing the history of the past few years, will be found to have changed their plans very frequently on the plea of expediency.

Well, there I go again, rambling on; but then, you know, I said at first I could not write in order, and as Mr. Editor said he wanted my thoughts, he must take them as he can get them, for they come tumbling out of my head faster than my pen can write them; there are so many things I want to say all at once, but then there is not time, and I feel I shall have already trespassed too far on the space of the Journal. But I will just briefly enumerate some of the chief points which seem to me just now worthy of consideration. First, what do we want with a British Dental Association? What is it going to do, that could not be done by the Odontological Society of Great Britain? The B. D. A. is going to be scientific as well as political, and a sort of trade union. By the way, is that worthy of our newly-developed profession—is it worthy of our F.R.C.S.'s, M.A.'s, M.D.'s, F.R.S.'s, &c., &c.? Well, why cannot the Odontological Society become political as well as scientific? Why cannot it have its local branches all gathered under the wing of the time-honoured old society, the Odontological Society of Great Britain? Why cannot it have its different committees; its parliamentary committee, its revision of register committee, its benevolent fund committee, its publishing committee? Why split up and divide the strength of the Dentists and their money in six different societies? There are men who belong to all these different societies, the Odontological, the British Dental Association, the Society of Surgeons Practising Dentistry, the Odonto-Chirurgical, the Western Counties' Dental Association, and now I am glad to see there is to be a Midland Counties' Dental Association. May all success attend the latter; but I think still it would be wiser if it could be called the Midland Branch of the Odontological Society of Great Britain, or else let the Odontological Society of Great Britain drop its grandiloquent title and call itself of *London*, for as at present worked it is nothing more. However, time is up, so I must ramble no more at present; besides I am too tired to write more to-night, so this must be taken as my introductory, and, if I am well enough, I'll try and write some more some other time, but I won't if the Editor don't print this.—“SENEX.”

[We hoped better things of our old friend, but we *will* print this in hopes that he may mend next time; we have heard his "chat," and only wish he would write as much to the point as he talks. However, we will give him another chance.—ED. 'B. J. D. S.']

FLETCHER'S CARBOLISED RESIN.—As Mr. Johnston can buy this from any of the depôts cheaper than he can make it on a small scale, it is hardly worth while taking up two or three pages in the Journal describing the process necessary to obtain combination between two materials so troublesome to deal with as these. The composition has been repeatedly published.—THOS. FLETCHER.

MR. FLETCHER informs us that he has in preparation, and expects to have ready by the middle of February, a new foot blower; draft gas furnaces requiring no blowing, new simple patterns for heavy continuous work requiring a very small gas supply; a new brazing blowpipe; and other useful improvements and appliances.

MR. VANDERPANT, L.D.S.I., has, we are pleased to see, taken the initiative at a meeting of the Town Council of Kingston-on-Thames, of which he is a member, in proposing the establishment of floating baths on the river similar to the one near Charing Cross Bridge.

THE 'Med. Times' says: "We are authorised to state that during the ensuing summer a Students' Garden will be thrown open in the Royal Gardens, Kew, where students will be permitted, under certain regulations which will be drawn up hereafter, to procure botanical specimens for scientific study and observation.

THE 'Med. Times,' commenting on the current number of the 'Nineteenth Century,' says it is one of the best ever issued. Among many valuable and interesting articles is one by Sir James Paget, entitled "Escape from Pain: the History of a Discovery." This history is, of course, the history of the introduction of anæsthetic agents into surgical practice. It is difficult to summarise the article, and, indeed, it is undesirable to do so. Every one should read it in Sir James' pure English.

THE 'Lancet' has with the new year come out with its

pages cut, after allowing all its younger but brisker competitors to precede it in that practice.

DENTISTS IN PRUSSIA.—According to the new Prussian Medical Calendar there are in Prussia 251 Dentists, fifty-one of whom are in Berlin.

DENTAL ASSOCIATION FOR THE MIDLAND AND NORTH-WESTERN COUNTIES.

THE following circular has been issued to some members of the Dental profession :

January 6th, 1880.

DEAR SIR,—It is proposed to hold a private meeting of Qualified Practitioners to consider the desirability of forming a Dental Association for the Midland and North-western Counties. The objects of such an association would be similar to those contemplated by the "British Dental Association" and the "Western Counties' Dental Association," viz. to promote the general interest of the profession by regular meetings for conference, &c., &c., and specially to assist in carrying out the provisions of the "Dentists Act." The opportunity of uniting all the best forces we possess for the elevation of our calling to its legitimate position is such as should enlist the sympathies of every true member of the profession. We, therefore, invite your attendance and cordial assistance at a meeting which will be held at the "Queen's Hotel," Manchester, on Saturday, January 24th, 1880. The Chair will be taken at three o'clock by J. Smith Turner, Esq., of London. An answer signifying your intention to be with us will be highly esteemed.—SIDNEY WORMALD, 20, Wellington Road, Stockport; W. H. WAITE, 10, Oxford Street, Liverpool.

The following gentlemen have kindly intimated their approval of the above propositions :

November 29th, 1879.

W. H. WAITE, Esq.

In answer to your letter of November 26th I have no hesitation in stating that I believe the formation of Dental Associations, embracing limited areas, will be of service both to the general public and to the profession, provided their organisation be such as shall support and strengthen the General Association—the "British Dental Association."

The Western Counties' Dental Association, by the nature of its bye-laws, is, I think, calculated to secure this effect,

and I shall be happy to support, so far as I am able, any similarly organised association.

I am, yours faithfully,

JOHN TOMES,

Upwood Gorse, Caterham Valley, Surrey.

JAMES SMITH TURNER, M.R.C.S., L.D.S. Eng.*

EDWIN SAUNDERS, F.R.C.S.	T. A. ROGERS, M.R.C.S.,
JAS. PARKINSON, L.D.S. Eng.	L.D.S. Eng.
T. UNDERWOOD, L.D.S. Eng.	J. O'DUFFY, L.D.S.I.
CHARLES VASEY, L.D.S. Eng.	S. L. RYMER, L.D.S. Eng.
R. E. STEWART, L.D.S. Eng.	H. CAMPION, M.R.C.S.
J. G. ROBERTS, L.D.S.I.	H. MARSH, L.D.S. Eng.
J. R. GOEPFEL, L.D.S.I.	T. M. KELLY, L.D.S.I.
C. SIMS, L.D.S. Eng.	D. HEPBURN, L.D.S. Eng.
R. ROGERS, L.D.S.I.	T. MAHONIE, L.D.S.I.
J. N. MANTON, L.D.S. Eng.	D. A. WORMALD, D.D.S.,
W. C. WILLIAMS, L.D.S. Eng.	L.D.S.I.
F. RICHARDSON, L.D.S.I.	T. MURPHY, L.D.S.I.
A. COLEMAN, F.R.C.S.,	J. H. KYAN, L.D.S. Eng.
L.D.S. Eng.	

ROYAL COLLEGE OF SURGEONS IN IRELAND.

WE are pleased to state that Dr. Best, of Savannah, whose beautiful work in celluloid has pleased so many in this country, has successfully passed his examination in Dublin as a licentiate of Dental Surgery of the Royal College of Surgeons in Ireland. He has favoured us with the following copy of the written questions, the candidate being required to give an answer to one question in each paper.

Examiner.—Mr. JOHN H. LONGFORD.

1. Name the various substances in use as a base for artificial teeth for the last thirty years, and give your remarks upon each of them.
2. Describe the process of precipitating and collecting silver amalgam.

Examiner.—Mr. HENRY G. SHERLOCK.

1. What are the sequelæ of gum-boil, favorable and unfavorable?
2. Mention the uses of the following preparations in Dentistry:—1. Mercury. 2. Borax. 3. Permanganate of potash. 4. Alcohol. 5. Collodion. 6. Tincture of iodine.

Examiner.—Dr. EDWARD A. STOKER.

1. Compare the incisors and cuspids, give minutely their

* We have taken the liberty of adding to the initials of qualifications letters indicating where they were obtained.

mode of attachment to the alveoli, and trace the upper and lower anterior dental nerves from origin to destination.

2. Give the muscular attachments, general relations, and uses of orbicularis oris muscle.

Examiner.—MR. F. ST. B. TAYLOR.

1. What materials are used for taking impressions of the mouth, and how are they applied?

2. Describe the method of using the rubber dam.

Examiner.—MR. E. STAMER O'GRADY.

1. Enumerate the varieties, give the symptoms of, and state how you would treat dislocation of the lower jaw.

2. What is glossitis? Mention the varieties of the affection, and give the treatment.

Examiner.—MR. B. WILLS RICHARDSON.

1. Enumerate the nerves of taste, and give the functions attributed to each of them.

2. What is supposed to be the destination of the external epithelium of the enamel organ?

THE EXECUTIVE COMMITTEE OF THE GENERAL MEDICAL COUNCIL.

At a meeting of the Executive Committee of the Medical Council held on Friday the 29th ult., after the usual medical business many Dental questions were entertained, a report of which cannot be published until the minutes are confirmed.

APPOINTMENT.

WE are pleased to see that Mr. Charles Heath has been appointed Surgeon Dentist in Ordinary to H.R.H. the Duke of Edinburgh.

Obituary.

S. S. WHITE, OF PHILADELPHIA.

OUR readers, we are sure, will universally join with us in deeply regretting the loss of this gentleman, who died on December 30th, 1879, at the Continental Hotel, Paris, from congestion of the brain, in the fifty-eighth year of his age. Dr. White was known and respected all over the world as a celebrated maker of Dental appliances and proprietor of the 'Dental Cosmos.'

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—There has been a great outcry against chemists having registered themselves as *bonâ fide* Dentists. I think if we look nearer home we can find some in our own profession who have registered either themselves or others illegally.

Take the under-mentioned case (for its authenticity I can vouch, and give the names alluded to if required); Mr. Z, of A, before the passing of the Dentists Act, had a branch practice at X, and advertised it as a *tooth club*, where any person could have teeth by paying a certain sum per week. After the act passed Mr. Z took his own name (which he had on a sign board) down and put his son's on the door.

The son is now registered, and advertising as a *Dentist by diploma*, although he is only about seventeen years old.

I ask, sir, is it fair for this to stand, when other Dental pupils and Dentists' sons will have to spend their time and money to get what this one has got surreptitiously and in defiance of the Dental Act?

Yours, &c.,

TWELVE YEARS' SUBSCRIBER.

MR. GEORGE WARD has written us a long letter in reply to the criticisms of "A Chemist and Dentist" on his former article. We have not space for more than a few lines to allow Mr. Ward to correct what he considers an erroneous interpretation of his words. He writes as follows :

To the Editor of the 'British Journal of Dental Science.'

SIR,—I trust in abstract justice, and on behalf of the two noble words which now head your Journal, you will permit me to reply to "A Chemist and Dentist," who answers in reply to my article, entitled "Aut Cæsar, aut Nullus." . . . The writer admits *some* chemists had no business to register as Dentists; but what has that to do, he writes, with those who made no such mistake? Who wrote it had? Not I! I wrote of ordinary chemists in general, not of a few in particular, who followed Dentistry previous to the Act. Next, if I were to address myself to

the Pharmaceutical Society, as he suggests, would it vouchsafe me a hearing? Not it! Then why should I write to it? Now, my two articles, "Dentists and Dentistry" and "Aut Cæsar, aut Nullus," were written on principle. I wrote not of an individual or against one, but of the two callings as men and things at present exist in them. I also write it, that to fearlessly and truthfully express oneself of things and men will advance any society. It is the suppression of the opinion that injures. If men are not at times truthfully found fault with they get self sufficient in the pride of their own conceit, and thus fancy themselves infallible, and so injure themselves, their cause, and their followers. . . . I have honestly and boldly attached my full name, and have not written anonymously. Give me an honest, manly name; it speaks volumes for the writer's integrity and honesty. Wishing your Journal every success under its noble motto, and trusting that you will fearlessly act up to and not belie the two words,

I remain yours, &c.,

GEORGE WARD.

To the Editor of the 'British Journal of Dental Science.'

SIR,—It may be useful to many to know, Mr. C. W. Dunn especially, that a mixture of four parts vaseline and one of solid paraffin will prove very effectual in preventing any steel article from rusting.

Mr. F. Richardson's Dental chuck wire, I am sure, will be found a very serviceable and useful addition to the workshop. I have had a very similar one in use for some years, and can testify to the amount of time and labour saved. I would also suggest that the use of an ordinary cork, attached to the screw end of the mandril, is a very useful article in producing a smooth surface when used with plenty of pumice powder and water, and answers better than either glass or emery cloth.

Yours, &c.,

A. S. DUNN.

9th January, 1890.

PROFESSIONAL FEES.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I was very much pleased to see, in the first number of the Journal for the year, a letter by "Colonist," which touched on this most important subject, and for myself I can only say that it is a matter which has caused me very great annoyance since I began practice.

There can be no question that the ridiculously low charges made by some members of the profession is fre-

quently the cause of much unpleasantness to those who claim a fair remuneration for their services and enable them to maintain, for the comfort of their patients and themselves, all the necessary instruments and accessories.

Of late I have had several patients from neighbouring towns who have opened my eyes with regard to the importance of some combination, such as exists in other professions and trades, in regard to a greater uniformity in charges.

Yours &c.,

UNITY.

[THE writer appends his own scale of fees and those of some others, which we hold over for consideration.—Ed. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have just received January copy of the 'British Journal of Dental Science,' where I observe a report of my remarks made at the opening of the Edinburgh Dental Hospital. As I spoke without notes, the report of my address for the 'Dental Review' was handed me in proof for the *corrections* which, under the circumstances, were required as a matter of course. It appears to me, however, that one of these *uncorrected* proofs has been sent to you and printed straight off, with all its errors of diction and of facts, making by no means an appearance creditable to me. I think it right to draw your attention to this, in the hope that some short note in next issue might prevent such misadventure telling against both of us.

Yours, &c.,

J. SMITH, M.D., &c.

January 8, 1880.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Being a five years' subscriber permit me space in your valuable Journal to ask if any brother professional can inform me, through your columns, if any preparation is necessary for waste amalgam before melting and refiling it, providing the waste has been thoroughly washed with *absolute alcohol*, and all excess of mercury squeezed out through a piece of washleather. Yours obliged,

ECONOMY.

January 5, 1880.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your kindly notice of the new Dental chuck I see you have credited me with the invention, which is incorrect. It is to my son alone that whatever merit the

contrivance possesses belongs ; all that I have had to do with it has been to satisfy myself as to the genuineness of its claims before taking part in bringing it before the profession.

I am, &c.,

FRANK RICHARDSON.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Allow me to thank Mr. Richardson, by means of your Journal, for his kindness in answering my letter contained in your number of December 1st, in which I inquired how to nickel instruments, &c.

Three friends had privately written to help our dispensary here in the matter, and while I am very grateful to them, I wish particularly to thank Mr. Richardson for having answered me in your Journal's columns. In doing so he conveys his information to others as well as to us.

We who live far from you study the Journal with the greatest possible interest, and I hope all are as grateful for the benefit procured as I am. I think if, in the difficulties which beset us all, we would ask aid one of another more than is done, a great advantage would be gained.

If you think it well to insert this letter you will oblige,

Yours, &c.,

CHARLES WM. DUNN.

January 12, 1880.

A HORRIBLE TALE.

To the Editor of the 'British Journal of Dental Science.'

SIR,—A few weeks ago the district in which I reside was startled from its propriety by a report in a local paper that a well-known individual had swallowed his artificial teeth ! As no further notice appeared in the paper in question, I made inquiries, and obtained the following particulars :

On realising his fearful position the sufferer sent post-haste for assistance, and soon two medical gentlemen appeared upon the scene. The laryngoscope was applied, and for once doctors agreed. To both the teeth were plainly discernible, and to work they went to remove them ; but their efforts were vain ; the teeth would not stir. At last they gave up the attempt in despair, and it became their painful duty to inform their patient that he had but a few hours to live. Just as they were about to depart, the servant happened to remove something which lay on the table, when lo and behold there lay the teeth !

Yours, &c.,

DENTIST.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
 2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
 3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
 4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :
 Twelve Months (post free) 14s. 0d.
 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
 5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

ANSWERS TO CORRESPONDENTS.

- CLUNGKINGFER.**—If the man calls himself a Dentist on his card and is not registered he can be prosecuted under the Dentists Act. Apply to Mr. James Smith Turner.
- V. C. MALLAN.**—As you yourself justly say that “you entirely fail to see of what practical utility it would have been to have continued the controversy,” we must adhere to our decision to close it.
- INQUIRER.**—It is very doubtful whether there will be an examination for the L.D.S. in February, as was expected, owing to the paucity of names entered.

Several correspondents have sent us cards, circulars, &c., showing how it is possible to evade the Dentists Act. We thank them but do not publish these documents nor the letters accompanying them, simply because to do so would only be showing others the way to do wrong. These people will all sink to their proper level in time. It would be folly to bring them into prominent notice in our pages. Education which ~~must~~ result from the Dentists Act is the only cure, but the result will scarcely be felt in our time.

Communications received from “A Bonâ Fide Dentist,” “Unity,” T. Fletcher, “G. P.,” T. A. Rogers, J. Smith, M.D., “Twelve Years’ Subscriber,” “Economy,” George Ward, A. S. Dunn, J. Tomes.

BOOKS AND PAPERS RECEIVED.

- ‘Correspondenz Blatt.’ ‘Medical Intelligencer.’ ‘Journal of the Chemical Society.’ ‘Dental Cosmos.’ ‘Dentists and Dentistry.’ ‘London Express.’ ‘On Port Wine Mark, &c.’ ‘Dieci Casi Di Trapiantazione.’ ‘Catalogue of Medical Books.’ ‘Dental Register.’ ‘Pharmaceutical Journal.’ ‘Giornale Correspondenza.’ ‘Le Progrès Dentaire.’ ‘Le Progrès Medical.’ ‘Chemist and Druggist.’ ‘Sussex Daily News.’ ‘Surrey Comet.’

British Journal of Dental Science.

No. 289. LONDON, FEBRUARY 1, 1880. VOL. XXIII.

Dental Surgery and Medicine.

ON CERTAIN FORMS OF NECROSIS OF THE JAW.

A paper read before the Students' Society of the Dental Hospital of London, January 19th, 1880.

By G. D. CUENOCK, Esq.

MR. PRESIDENT and GENTLEMEN,—The disease which I purpose bringing under your notice to-night is one, relatively speaking, of extreme rarity; and at the outset of my remarks I must say that the facts I bring before you are not the result of my own personal observations, but of my researches into the works of different authors who have treated of the subject. Most here will remember that a short time ago it was charged by a correspondent in the 'British Journal of Dental Science' that a paper read before this Society was not original, but that part of it was taken from a well-known work on Dental Surgery. Now, sir, I take it that the name of our Society, "The Dental Students' Society," does not signify that it is a meeting of learned men who gather to advance theories and discuss points in practice which have only been developed after years of study and observation, but that it is essentially a meeting of students who are drawn together for the purposes of mutual improvement and the encouragement of study in all branches of the Dental art.

This is my only and, I think, sufficient apology for attempting to discuss a disease, some forms of which I have not yet been favoured with a sight of. Phosphorus disease, which I shall bring before you, is now almost extinct, and necrosis of the maxillæ after the eruptive fevers is of only occasional occurrence. The same disease of the maxillæ following salivation is also very rare. But this fact does not lessen, but rather may be said to increase, the importance of our knowing something of the symptoms, course, and treatment of a disease which legitimately comes under the area of Dental practice, and which we may be called upon to

treat any day. . It is to the establishment of these facts that I shall direct your attention this evening.

Necrosis of the jaws may be the result of a variety of causes. It may, as in other bones, follow fracture or blows. Any ulcerative affection of the mouth may be succeeded by it, and it has been known to occur, especially in children of a strumous or scrofulous diathesis, without any assignable cause. Syphilis, the use of mercury, exposure to the fumes of phosphorus, and the eruptive fevers, are all active agents in the production of this disease.

The subject is such a wide one that I must confine my attention to jaw necrosis from phosphorus and mercury, poisons acting, the one locally and the other constitutionally, and also from syphilis and the exanthematous fevers, both of them poisons acting constitutionally.

I purpose devoting most of the time to the consideration of phosphorus disease, because it is, perhaps, the most severe, and is typical of all other forms of necrosis, and then noticing the characteristic and peculiar points of the other forms of necrosis I have mentioned.

The relation between phosphorus and exanthematous jaw necrosis is very close. It is the poisoning of the tooth-pulp, from without in one case, and from within in the other. In both cases periostitis is the immediate precursor of the advent of the disease. The teeth are but highly developed forms of the external skin and of the mucous membrane lining the alimentary tract, or, in proper phraseology, are "dermal appendages." Keeping this fact in mind, we also know that the eruptive fevers spend most of their force upon the external skin and the mucous membranes. Putting these two facts together, it will be easy to believe that, as is generally acknowledged, the two diseases, if different in their origin and cause, are similar in their symptoms and course. In fact, they are almost one and the same disease.

Phosphorus disease, origin.—This form of necrosis is almost without exception the result of the exposure, direct or indirect, of the alveolar-dental periosteum to the fumes of phosphorus; and it seems to be confined, almost exclusively, to those employed in the manufacture of lucifer matches. It was not until after the introduction of these articles into commerce that the disease became known. In fact, we have no mention of it until eleven years after.

Lorinser, of Vienna, was the first to notice the disease in 1839, and in this country the first record of it is by Dr. Wilks, of Guy's Hospital, in 1847. "Of the other diseases of the lower jaw," says he, "one occurred in a lucifer-match maker, with suppuration and exfoliation of bone."

This disease has fortunately been very short-lived, having been, as we have already seen, first noticed some forty years ago, and now it has almost entirely disappeared, owing to the manufacture of lucifers being now so conducted that those engaged in it are preserved by various chemical and mechanical contrivances from its baneful effects.* Lucifer matches are generally at the root of this disease. There are instances, however, in which it has occurred in others than those employed in lucifer-match making; but all the cases, with but one exception, that I have had records of, are directly associated with their use and, in some instances, their abuse.

Pluskal mentions an example in which "a little girl, seven years of age, who was in the constant habit of playing with matches, standing before a wall and discharging them in the dark for amusement, so that her face was bathed in their fumes; in time she was attacked with necrosis and exfoliation of small portions of the lower jaw, with the ordinary attendant symptoms." Simon narrates a case in which the disease appears to have been brought on by a person chewing pieces of ginger, which he kept in his pocket with some lucifer matches (Holmes). These are cases, and others might be cited, in which lucifer matches are the cause of the necrosis. The only instance I can find of the disease not being associated with them or their manufacture is one in which it resulted from a person inhaling phosphorus fumes in preparing medicine for himself containing that drug.

As smoking is such a prevalent habit among all classes, it would be interesting to know whether any instances have been observed in which necrosis was the result of the constant practice of most smokers of lighting their pipes and cigars with matches and fusees. I believe these latter to contain more phosphorus than the former, though there is a variety of lucifer of which a large quantity is yearly sold, of a foreign make, which I believe is dipped in phosphorus. This theory is strengthened by the fact that the use of phosphorus is not (as is generally supposed) entirely discontinued in lucifer making. The reason why the disease is now so rarely seen is because the manufacture is so carried on that those employed in it escape contact with the fumes.

Another fact of interest concerning the origin of phosphorus disease is that those engaged in its manufacture are not attacked until they have been some considerable time so

* It is only just to add that this result has been mainly brought about by the efforts of the Messrs. Bryant, of the celebrated firm of Bryant and May. A visit to their well-cared-for factory would amply repay for the trouble of a journey to Bow.—[Ed. 'B. J. D. S.']

engaged. Instances are given of people having been thus employed for several years before any necrotic symptoms were noticed; in fact, one case is recorded of a girl, who had enjoyed immunity from it during the whole of five years she had worked in a match factory, being attacked with necrosis some months after she had left the employment and had adopted a totally different and healthy occupation.

Not only are these cases interesting, but they are instructive and useful, as forming guides to a correct diagnosis of maxillary necrosis. This must serve as my apology for having dwelt so long on this part of the subject. We have seen that this disease is caused by the application of phosphorus or its fumes to the periosteum. The evidence gathered from statistics and the observations of those who have paid attention to this subject go to prove that the influence of sulphur fumes upon the jaw is direct and local. The surgeons who first noticed and described the disease held a contrary opinion. They thought that the poison was introduced into the system by the blood becoming charged with the fumes, and that the phosphorus, having an affinity for osseous tissues, it would become localised in the jaws by their direct exposure to its application. But subsequent experiments and observations have conclusively shown that the disease is not constitutional, but local in its origin. Moreover, if the older theory were correct there is no reason why other bones of the skeleton should not be attacked in like manner.

The weight of evidence leans to the idea that the poison is introduced to the periosteum through the broken surface of mucous membrane, as after the extraction of a tooth, or even through the cavity of a carious tooth. Mr. Salter has gone so far as to assert that necrosis can *only* be set up by this means, and that it has never been noticed but under these or similar conditions. Some have even stated that the disease has never been known to occur in a person whose teeth were perfectly sound and free from caries. This strengthens Mr. Salter's opinion that the-tooth pulp must be exposed to the poison to bring about this form of necrosis.

"What the precise nature," says Mr. Salter, "of the action of the phosphorous oxide thus absorbed may be upon the bone is a matter of speculation; but the particular nature of the poison, entering as it does so largely into the composition of the skeleton, is a suggestive circumstance; perhaps, if accumulated by the periosteum, it may generate on the bone's surface a condition of chemical super-phosphate, inconsistent with osteal vitality."

Symptoms.—The symptoms of necrosis in the jaws from

whatever cause are essentially similar. The first indications of the approach of disease are the four cardinal signs of inflammation, pain, heat, redness and swelling, variable, of course, in degree, according to circumstances. This local inflammation is, after some time, attended with general febrile disturbance, which varies from slight fever, with rise of the temperature and pulse, to high fever and even delirium. The length of time that elapses between the local and constitutional fever is considerable. The patient is disturbed by what he supposes to be toothache, but which is not toothache in the general signification of that term, but something far more serious—periostitis. It is to this that the inflammation is due. The teeth are raised from their sockets and loosened, and thus there is a fifth indicator of inflammation, brought about in the impairment of their function, owing to the extreme and excruciating pain that is felt on their coming in contact with their fellows of the opposite jaw, or even from any slight pressure arising from any other source.

Surgery teaches us that inflammation leads to suppuration ; and this is the next step in the disease we are now considering. If the true nature of the symptoms has not up to this time been recognised, and treatment adopted accordingly, there is now little hope of the suppuration stopping short of necrosis, for but an incredibly short space of time elapses between the excitement of the suppuration and the appearance of necrosis.

The swollen gums and mucous membrane of the mouth became soft and boggy, the former being detached from the necks of the teeth, from which pus of a most fetid and putrid character, and having the characteristic odour of dead bone, is exuded. The teeth in the affected region are by this time quite dead and loose.

This pus is the product of a plastic material, which as the result of inflammation is effused between the periosteum and the bone. There are three ways in which this material is got rid of. First, it may become organised and converted into bone ; secondly, that it may become absorbed ; and lastly, and unfortunately most frequently in the case of the jaws, especially the lower jaw, it may, as we have already seen, be converted into pus. If this pent-up matter is not let out it will soon burrow along the tissues until it finds a free exit. In the case of the upper jaw it will burst into the mouth ; and in the lower jaw on the lower margin of the bone on its outer aspect, or even it will work its way down the neck, finding an exit at some distance from the seat of the disease.

The necrosed bone may easily be felt by passing a probe down any of the fistulæ through which the pus is exuding.

The amount of swelling consequent upon the inflammation varies; it is often very great, particularly when the lower jaw is affected. Cases have been known where the whole head and face were involved.

The discharge of the pus gives relief from the distressing sufferings and pain, but it is a sure sign that necrosis is active, and preventive treatment is now at an end.

This stage of the disease is most serious, for it may now take either one of two courses. On the one hand, it may gradually tend to a fatal termination. The weakness consequent upon a long and tedious course of suffering, the difficulty of eating solid food and the resultant mal-nutrition, the swallowing so much of the pus and discharges, all combined, tend to drag the patient through months of illness until death ensues. The complication of the disease with gangrene and erysipelas may cause a more speedy termination of life. On the other hand, in the majority of instances such is not the unfortunate termination, but under treatment and care the patient recovers, but with a considerable loss of bone and deformity. The cause of the exfoliation and detachment of the dead portion is similar to that of necrosis in other bones. Any loose and dead teeth that have not previously been extracted will probably fall out. The sequestrum will in time become sufficiently loose to permit of its being removed.

(To be continued.)

Mechanical Dentistry.

NEW "ROTARY" SHANK SWIVEL.

WE have received from Mr. Thomas Sexton samples of a new "Rotary" Shank Swivel which he has lately brought out, and which are certainly a great improvement over the old pattern.

Two great advantages of the "Rotary" Shank are that they allow the springs to adjust themselves in the mouth and give an even wear to all parts of the spring. They are made in gold and also Dental alloy; and we think they only want to be known to be used by many who desire the advantages these have, without the additional ingenuity of Mr. Hempel's detachable arrangement.

British Journal of Dental Science.

LONDON, FEBRUARY 1, 1880.

WE welcome with pleasure a new association of Dentists in, we may truly say, our midst, for it is to be called the Midland Counties Dental Association.

The increasing number of local societies cannot be otherwise than a source of gratification to all those who have striven for years to advance the interests of the Dental body, as these societies are to a certain extent calculated to promote a pleasant and friendly feeling among the practitioners of the district in which they are established. We say to a *certain* extent, because there are circumstances under which, without care, they may be made simply the means of pandering to the vanity and self-conceit of individuals by placing them in positions which they are not fitted to hold, and where they are only tolerated because their very obtrusiveness drives into apparent apathy people of better education and more refinement of feeling. This would be greatly to be regretted, and we trust that whenever there is a local movement in favour of forming a Dental association, no gentlemen of position will hold aloof, and thus permit the reins of power to slip into the hands of those who are often the least fitted to hold them.

Again, it should never be forgotten that one of the main objects of the formation of local societies is to promote kindness and good-feeling among brother practitioners, and therefore every endeavour should be made to prevent them from being made use of for the gratification of petty local feelings against one another. We would far sooner see them err on the side of liberality, and admit to their society men who may have failed to win the liking of all their compeers, and who, if really undeserving of it, will soon find their proper level, than we would have them exclude any such persons, and run the risk thereby of creating a division which is never of advantage to any community.

Referring now again to the new Midland Counties Association, we shall forbear from making any comment upon the proceedings, leaving that to our readers to do if they see fit. As a rule, we intend to confine ourselves to general principles, but as British journalists we must protest against the holder of an American Dental qualification being regarded as an unqualified man, simply because his qualification is not allowed to be entered on the register; by the same rule the chairman of the meeting may be considered by some as an unqualified man, since, although he is a member of the Royal College of Surgeons of England, the present interpreters of the Act have decided that the initials of his qualifications, M.R.C.S. Eng., shall not be entered on the Dental register, but even supposing we are incorrect in our reasoning, still, we cannot refrain from expressing our regret that such a matter should have been allowed to pass unchecked at a meeting of which one of the chief conveners himself holds an American Dental degree; and we must add that the quiet forbearance of the gentleman, who was not allowed to speak, reflected honour on the American diploma he holds.

Literary Notices and Selections.

IN the 'Medical Times and Gazette' for January 10th, 1880, there is an account of a case of Typhoid Fever, presenting the usual features until the eighteenth day, when the report proceeds as follows:

"18th.—Diarrhœa has been checked. Temperature this morning $101\cdot4^{\circ}$. Patient is very much reduced in strength, and to-day there has been noticed in the mucous membrane of the left cheek a small unhealthy-looking ulcer.

"20th.—The ulcer mentioned is spreading fast, and has the aspect of cancrum oris. Last night the temperature reached $103\cdot4^{\circ}$, this morning it is $100\cdot6^{\circ}$. The diarrhœa has ceased. Terebene is being used as a local dressing and as an antiseptic.

"21st.—At 1 a.m. patient was apparently in a sinking condition—the pulse was 160—and half an ounce of brandy was ordered every hour. Afterwards patient rallied a little.

Temperature 100.6° during the day. The ulcer of the cheek is spreading.

"27th.—Temperature has been fluctuating irregularly from 103° to 99° . The ulcer has been slowly extending, and the lower jaw is now exposed. Patient is extremely weak. A mixture containing quinine, chlorate of potash, and hydrochloric acid has been ordered.

"From this date the history is one of gradual exhaustion and of extension of the cancrum oris. The treatment of the ulcer was under the care of Mr. Barwell, who applied chloride of zinc paste, but the ulcerating process went steadily on—first the lower jaw, and afterwards the upper, being almost entirely exposed by the destruction of the soft tissues. Patient died on January 10th, this being about fifty-one days from the appearance of typhoid symptoms. For a few days before death there was a return of the diarrhoea.

"At the post-mortem examination the body generally was much emaciated. As noted during life, there was complete loss of the soft tissues covering the lower and the upper jaws, the denuded patch being circular in shape, and extending from the left angle of the mouth nearly to the angle of the jaw and to the malar bone above. There was also an appearance of the commencement of a similar patch over the left temple, where the parts were of a dirty black colour. The internal solid viscera were all bloodless, but normal in structure. In the colon, about six inches from the ileo-cæcal valve, there were traces of ulceration of the mucous membrane. In the ileum, for twenty-four inches above the valve, there were numerous tracts of very marked hyperæmia, but there was no recent ulceration, and no indication that ulceration had been present at any time to any great extent."

CHLOROFORM DEATH.—The 'St. John Globe' (New Brunswick) reports a death by chloroform on the 18th ult., in the case of a lad aged 17, suffering from an accident to the left foot. The quantity of chloroform used was said to be small; hardly three ounces of blood were lost during the operation. The post-mortem examination showed the body to be well nourished, the heart normal, the left side being empty and contracted, and the right filled with black fluid blood. About three drachms of blood were found in the pericardium. The right lung congested, and the left lung was hepatised, more particularly in the lower lobe, and, with the exception of the apex, there were adhesions on nearly all parts of it. The stomach was empty and con-

tracted; and the liver normal. Death was ascribed to asphyxia, hastened by the action of chloroform on the congested lung. The amount of chloroform used is stated to have been not more than three drachms. The coroner was of opinion that ether should have been used instead of chloroform, being attended with less risk, although a little more difficult to administer. We should not be sorry if this question were directly raised in chloroform deaths in this country. The risks of chloroform appear to be so considerably greater than those of ether that we should not be surprised if some day, in the course of an investigation where death has occurred from chloroform, when there was nothing to contraindicate the use of the apparently safer anæsthetic, ether, some very serious and severe blame, and perhaps even more unpleasant consequences, should result to the administrator. It is not sufficient in such cases to say that every care was exercised in the administration of the anæsthetic, unless it be very clearly shown that the anæsthetic was chosen which had the best record, and was the best authorities accepted as being least likely to cause fatal accidents. This view of the subject is apparently not always sufficiently considered by surgeons and by some of the gentlemen who hold themselves out as especially undertaking the business of administering chloroform. It is, however, one which will deserve very serious consideration, and the neglect of which may some day cause very unpleasant consequences.—*Brit. Med. Journ.*

THE BARNARD DAVIS COLLECTION OF SKULLS.—The great osteological collection which Dr. Barnard Davis, F.R.S., has accumulated during a long life devoted to anthropological pursuits is well known, both in England and abroad, as the richest and most valuable ever formed by a private individual, exceeding, as it does, in variety and rarity the specimens of all the public collections of this country and most of those on the Continent. It contains about eighteen hundred specimens of skulls and skeletons of various races of men, the value of which is greatly increased by an excellent catalogue, called *Thesaurus Craniorum*, in which each is fully described, and all known particulars of its history recorded. Many of the specimens are of especial value as belonging to races either entirely or nearly extinct; others are eminently illustrative of the ethnology of the British Isles, as those described or figured in the *Crania Britannica* of Davis and Thurnam, or of our colonies and foreign possessions. The owner of this collection has long been desirous of seeing it established in some central or

public situation where it could be made available for future research ; and no place seemed so appropriate to him as the Museum of the Royal College of Surgeons of England, as, when united to that already possessed by the College (which, it may be observed, it considerably exceeds in magnitude), for the first time in this country a collection would be assembled in one spot worthy of a nation which, notwithstanding its extensive foreign connections, commerce, and colonies, has hitherto been behind, in this respect, many of our continental neighbours. We believe that, at one time, Dr. Davis contemplated leaving the collection to the College of Surgeons ; but considerations for the interests of his family do not appear to have justified this arrangement, and he has now offered it for the sum of £1000, which, considering its extent, and the labour and time taken in its formation, must be considered very moderate. Upon this becoming known to the Council at their meeting on December 11th, through a communication of Professor Flower, the Curator of the Hunterian Museum, it was the unanimous feeling of all present that it was most desirable that such a collection should be kept entire, and not permitted to leave the country ; that it was the duty of the College, as the possessor and administrator of the great anatomical museum of the nation, to undertake the charge of the collection ; and that, therefore, the opportunity of acquiring it upon the terms offered by Dr. Barnard Davis should not be lost. It was referred to the Museum Committee to consider and report whether the necessary sum could be provided out of the College funds, or whether it was desirable to seek for aid from other sources ; for the latter alternative, several liberal offers were at once made by individual members of the Council. We feel sure that, not only the profession, but all who are interested in the scientific progress of the country, will have great satisfaction in knowing that the Council of the College have thus promptly stepped forward to save this noble collection from dispersion or expatriation ; and that, if it should be thought that the College funds cannot judiciously be taxed at the present time, the country will promptly respond to an appeal for such a truly national purpose. There must surely be many among us who would gladly take this opportunity of acknowledging their estimate of what the Museum of the College has done, and is doing, in maintaining the scientific reputation of the country and the profession to which we belong. The Hunterian Museum thus enriched would more than ever become the great centre of osteological and anthropological research and instruction, and in the hands of Mr. Flower we may be sure

that this collection would be so arranged, developed, and studied, as to be rendered in the highest degree available for the advancement of knowledge.—*Brit. Med. Jour.*

At a meeting of the Council held on Thursday, the 8th January, it was unanimously agreed that the College should purchase this valuable collection.

ADVENTURES OF THREE FALSE TEETH.—A French medical journal relates the following little incident, the foundation of which is referred to Strasburg, while the 'Medicinische Wochenschrift' of Berlin is originally responsible for the publication of the story. In that journal Dr. Sonnenburg tells how a patient of his one night swallowed three false teeth, along with their gutta-percha base. The author tells us that when he was called in, the indigestible meal had arrived at about the fourth or fifth tracheal ring. He was unable to fish them up, and, with the consent of the patient, it was decided to go for them through the skin, the muscles, and the œsophagus. The operation succeeded beautifully; the teeth were plainly visible, but, unfortunately, just as the operator was about to seize them, the set executed a summersault and leaped into the œsophagus, and finally into the stomach. In concluding his narrative, Dr. Sonnenburg tells us that after passing through all the digestive passages the teeth made their exit from the body at the orifice opposite to that of their entrance.—*Chemist and Druggist.*

DENTAL INDIGNATION.—The 'British Journal of Dental Science' deserves great credit for the fair and broad view which in its editorial columns has been taken concerning the chemists and druggists whose names appear on the Dentists' Register. This temper has been maintained in the face of the legal opinions, and the flood of violent letters which have appeared in the correspondence section of the same journal.—*Chemist and Druggist.*

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

ANNUAL GENERAL MEETING, JANUARY 12TH, 1880.

EDWIN SAUNDERS, Esq., F.R.C.S., President, in the Chair.

Messrs Gaddes and Forsyth having been appointed scrutineers, the election of officers for the ensuing year was at once proceeded with.

The PRESIDENT announced that the following gentlemen had been duly nominated, and would be balloted for at a subsequent meeting:—Messrs. W. A. Maggs, of Albert Street, Regent's Park; Geo. Pedley, of High Street, Borough; and F. J. Bennet, of George Street, Hanover Square, as resident members, and Messrs. Arthur Taylor, of Leeds, and Charles Tamworth, of Oxford Street, Manchester, as non-resident Members.

The SECRETARY then read a communication from Mr. W. H. Skeet, of Omara, New Zealand, relating to a case of absorption of the upper jaw, due to the pressure of a pad of cotton wool. The patient, a lady, aged 55, had worn an upper plate for twelve years without inconvenience, but about three years ago, when she was about to leave England for New Zealand, she was advised to have a few remaining stumps extracted and a new piece made, and to this she consented. It supported the front teeth and bicuspid, and was clasped to the first molars on each side, which were the only teeth left in the upper jaw. As it was rather loose, a pad of cotton wool was used to tighten it, and this answered very well for some time; but about October, 1877, it was found necessary to increase the size of the pad every few days, and, at last, in March, 1878, the unsteadiness of the plate compelled her to consult Mr. Skeet. A model showing the state of the mouth accompanied the paper. Very considerable absorption of the alveolar process had taken place in the neighbourhood of the right first molar, the palatine fang of which was exposed almost to the apex. In the lower jaw there was nothing unusual. The patient had never lost any teeth from absorption of the alveoli.

Mr. HUTCHINSON also read a communication from Mr. Percy May, and showed models illustrating the case. The patient, aged 19, still retained his lower temporary molars and canines, and there were as yet no signs of the corre-

sponding permanent teeth. In the upper jaw the temporary canines were both in place when the patient was first seen, but, as the left permanent canine was just making its appearance, Mr. May removed the temporary tooth on that side, leaving the other.

Mr. R. H. WOODHOUSE showed the skull of a native of New Caledonia, which had been sent over by Mr. Redding, of Sydney, New South Wales. The inhabitants of this island were negroes belonging to the Papuan race, and the skull was remarkable from the fact that the wisdom teeth were imperfectly developed—a very rare occurrence amongst savage nations generally, and especially so amongst negroes. That on the left side was more like a temporary canine than anything else, whilst that on the right was also badly developed and was crowded out of position. He also showed the lower jaw of a Maori, which was remarkable only as being a typical specimen of what a lower jaw ought to be.

Mr. CLAUDE ROGERS then related the following case. A man, aged 58, came to him at the hospital, on December 23rd, complaining that a lower plate which he was wearing had become so fixed that he could not remove it. He had worn the plate, a gold one, for ten years; about three years ago he began to find difficulty in removing it, and for the last fifteen months it had not been out of his mouth. On examination Mr. Rogers found considerable swelling of the right side of the face, and a fistulous opening under the lower jaw on that side, through which a portion of the gold frame protruded. On looking into the mouth the body of the plate could be seen bridging across from one side to the other, but both ends were deeply embedded in the mucous membrane of the mouth, and firmly held by tough fibrous tissue. This was divided with a scalpel, traction upwards being made on the plate at the same time, and after some trouble the piece was removed. It was then found that the strong spiral springs, by which the plate had been held in position, had gone completely through the jawbone on the right side, and very nearly so on the left, where a deep depression had been formed. The patient said he had suffered but little pain. The fistulous opening had since healed, and the gap in the bone would, no doubt, in time become filled up by cicatricial fibrous tissue. Mr. Rogers had never heard of a precisely similar case. In answer to questions from Mr. J. S. Turner and Mr. Chas. Tomes, Mr. Rogers said that the bone had been cut through near the mental foramen on the right side where a large V-shaped gap existed. The articulation of the piece had been but little affected.

Mr. HUTCHINSON pointed out some of the advantages of a new Dental Chair made by Messrs. White, which had been sent for exhibition. The chief improvement was in the back, which could be adjusted to any angle, and was so exceedingly moveable in any direction that the chair could be made to hold comfortably either a small child or a full-grown adult. The back piece could also be raised, so that whilst it gave a firm support to the patient's back, a space was left below to receive the voluminous folds of a lady's dress.

Mr. Hutchinson then showed the plate which had been used in a regulation case, which he had lately brought to a successful termination, together with four models, three of the upper and one of the lower jaw, illustrating the progress of the case. Between the taking of the second and third models a period of three months elapsed during which the patient was not once seen. The young lady was over fourteen years of age when she came to him, the teeth were therefore tolerably firm in their sockets. Knowing that he should only be able to see the patient at long intervals of time, Mr. Hutchinson had been very careful to cut away the plate behind the projecting teeth so as only just to allow them to go back into their proper position.

Mr. ASHLEY BARRETT asked whether Mr. Hutchinson thought the improvement would be permanent? and the President asked how long Mr. Hutchinson thought the patient ought to wear the plate in such cases, in order to secure a lasting result?

Dr. FIELD said that the failure in these cases was generally due to the fact that the lower teeth from absence of their proper opponents were generally unduly high in their sockets, so that when the upper teeth were brought into line they were soon driven out again by the forcible blows which they receive from those in the lower jaw. To obviate this he was in the habit of allowing the lower teeth to bite for some time against a plate fitted to the upper jaw behind the projecting teeth. By this means, the tendency to undue elongation of the lower teeth was checked, and the upper might then be drawn back with every prospect of success.

Mr. HUTCHINSON said that in this case there was an edge-to-edge bite, and he had therefore great hopes that the teeth would remain in their new positions. But when the lower teeth bit on the backs of the upper there was no doubt a great tendency to relapse, and much care and patience was necessary to prevent this. As to the time required, he thought that in such a case as the one he had just related, the patient should wear the plate constantly for six months, and then for another six months during the night only.

After this it might be advisable to wear it occasionally for a short time longer. But if the bite was not edge-to-edge, a longer time than this would be necessary.

Mr. JAMES PARKINSON then read his report as Treasurer. He had been able to report annually for some years past that the finances of the Society were in a very satisfactory condition, and he had great pleasure in repeating this statement. The total receipts during the past year had been £490 12s. 8d, including £416 from entrance fees and subscriptions, and £33 13s. from interest on their invested capital. The expenditure had amounted to £386 19s. 7d., leaving a balance of £103 13s. 1d. The Society now held £1172 12s. in the 3 per cents., and the cash in hand and on deposit with the bankers amounted to £646 7s. The balance at the end of the current year would not be so large, as it was proposed to make a considerable grant for the improvement of the museum. The Society now consisted of 327 subscribing members, 25 of whom had been elected within the year; in addition to these there were 30 honorary, and 23 corresponding members. There had been eight resignations and but three deaths during the year.

Mr. WEISS reported that the library was in excellent condition. During the past year all the books had been rearranged and a new catalogue drawn up. About thirty new books had been added during the year. A considerable number had been borrowed, but the advantages which the library offered both for study and reference were, even now, not as widely appreciated by the members as they might be.

Mr. CHARLES TOMES said that numerous contributions had been made to the museum during the past year. It had been made use of to a much greater extent than formerly, both by the students and also by the hospital staff, for the purpose of illustrating their lectures; but as this had led to some disarrangement of the specimens, the Council had appointed Messrs. Magor, Willoughby, and Weiss to assist him in rearranging the specimens and in verifying the catalogue. When this had been done they proposed to mount and arrange for exhibition a number of specimens which had been kept for some time in reserve. The President then proceeded to deliver the following valedictory address.

GENTLEMEN,—The circling year has again brought round the point of time which reminds us that presidents have "their exits and their entrances," and in the present case brings him who makes his exit face to face with that solemn word of dire import "nevermore." For however difficult, or even presumptuous it may be in ordinary cases to say what

may or may not be in the future, or however deep may be the conviction of duties imperfectly discharged, or of opportunities let slip, it is certain that for him who now retires there is no space for reparation whatever there may be for repentance. Whatever his shortcomings there they must remain. For the rule of this Society is and ever has been, that the President shall be elected annually; and although at the expiration of his term of office he may feel that he is only now beginning to understand his work, and would be in a better position to discharge its duties in a second than in the first year, yet no precedent can be quoted for such an innovation, much less for one who has a second time enjoyed that distinction. Whether that rule, which was at first adopted in view of the advancing years and failing powers of the earlier presidents, might not now be reconsidered, and the practice in this respect be assimilated to that which obtains in the Royal Medical and Chirurgical and some other societies, may form a fit subject for consideration by the Council. It is one of those questions as to which there will always be, as there has always been, considerable divergence of opinion; for while to some the stimulus and enthusiasm due to a novel experience may seem to give a zest to the Society's proceedings, and to be in favour of an annual election, to others these advantages may appear to be more than counterbalanced by a certain immaturity and indecision in the presidential conduct of affairs. On the whole, as an impartial observer who has had some experience of both systems, I venture to express my conviction (though I do so with all diffidence) that the balance of advantage lies with the two years' tenure of office. The number of meetings comprised in a single session is scarcely sufficient for the full comprehension and discussion of questions of importance, or even for the initiation of much-needed reforms in the laws or management of the Society; with the result either that they are imperfectly discussed, and hastily but not permanently or satisfactorily settled, or are relegated by the retiring president to his successor, before whom they have to be reopened and argued afresh. I trust it need not be stated that these remarks are made entirely in the interests of the Society, and are suggested, not by my own, but rather by the experience of others who, for obvious reasons, may have shrunk from making the avowal. Nor, let me add, should I have ventured to touch upon the subject were it not for being beyond the pale, having already served the office for that second year which, coming in its natural sequence, and not separated by an interval, might appear to be advantageous. One, and a very conspicuous, advantage would cer-

tainly be, that the Society would be spared the infliction of two addresses, one inaugural and one valedictory, following so closely upon each other from the same person. When I last had the pleasure of addressing you from this place, I drew a very favorable augury for the future, from the character and attainments of the young members of our profession, who had not neglected the singular educational advantages of the present as compared with former time, and from their attitude towards, and attachment to, the Odontological Society. And I think all will admit that this confident ground of congratulation and expectancy has met with ample justification. If we look back through the year which has just passed, we shall see that it is to them and to their endeavours that the meetings mainly owe their interest. That it must be so if the Society is to maintain its life and vigour is obvious, but that these demands should have been so well and so promptly responded to, must afford great satisfaction to those who, from old association, feel themselves bound up in its welfare. In estimating the work of the session, two things must be borne in mind: the somewhat narrow limits of the field of work, and also that the Society, being no longer in its first youth, the field has been pretty thoroughly reaped and gleaned. But if we can point to no startling originality or self-evident improvement in science or practice, we have had a series of evenings pleasantly and profitably spent, and by no means barren of sound practical results. The discussions have been free and animated, opinions have been subjected to keen but not unfriendly criticism, which has in no instance transcended that unwritten code of courtesy which every true gentleman obeys instinctively even amid the heat and clash of opposing views. So that we need have been under no apprehension if our proceedings had been subjected to the critical eye of the intelligent foreigner* who has lately been favouring us with his impressions of our national characteristics, manners, and customs, in no captious or unfriendly spirit. He would probably have acknowledged that Englishmen, while maintaining the courage of their opinions, are not forgetful of the amenities that belong to an advanced civilisation, and even the more caustic critic of the House of Molière† would be forced to admit that in debate we can hold our own, and agree to differ without those frantic demonstrations of violence which are not quite unknown in the metropolis of taste.

Probably the one characteristic feature of the session just

* Dr. Hillebrand, 'Contemporary Review' for October, 1879.

† M. Sarcy.

passed will be found to be the development of that section of our meetings which is included under the term "casual communications." Such communications, from their eminently practical character, having their origin for the most part in the daily work of the consulting room or of that larger sphere of observation afforded by the Dental Hospital, have always been popular, and seem, in their increasing number and importance, to be destined to attract a still larger share of attention. This, it is only fair to say, has been mainly due to the exertions of our excellent Secretary, Mr. Hutchinson, who is not only a notable contributor in this kind himself, but who seems to have a rare magnetic power of calling them forth from others. How many an ingenious contrivance or novel proceeding in treatment or in the method of conducting an operation originating in some emergency, and of considerable interest and value in practice, would be consigned to oblivion but for this part of our meetings. Or, again, how often has a new light been thrown on a case of difficulty, or the weak points of an ill-contrived apparatus made manifest by bringing the case before the Society in this ready and informal manner. For with the scant leisure at his disposal and the many inroads made upon that small portion of his time which a man can call his own, who is in the full tide of successful practice, he, not unnaturally, feels indisposed to compose a monograph or prepare an elaborate paper, although he may be conscious of possessing ideas or results of experience not without value in smoothing the path of practice for others. Nay, more, he may be gradually made aware that his power of concentrating his attention upon any given subject is impaired from a long course of these constant interruptions; and the inaptitude thus arising, together with exhausted energies, makes him abandon the attempt in sheer despair of accomplishing it with satisfaction and credit to himself. And thus, if there were no such society as this, and no such provision as it affords for these waifs and strays of thought, much valuable matter would be lost. Not the least among the advantages belonging to these casual communications is the wide sympathy which they enlist, and the number of speakers they call up, as compared with the more elaborate and recondite papers. To this I must appeal in extenuation of a laxity in having on more than one occasion permitted the time allotted to this class of communications to be considerably exceeded. Being, however, strongly of opinion that whatever tends to render our meetings interesting should not be discouraged, I have been reluctant to enforce a strict interpretation of the law as to time.

The occasions have been so recent, and are still so fresh in the recollection of those present, that it will be unnecessary (as it might be invidious) to particularise the subjects which have been from time to time brought under the notice of the Society. But there was one at an early period of the session, apart from its own intrinsic interest as a step in advance in what may be called conservative Dental surgery, based on antiseptic treatment, which furnished so curious an illustration of a novel and growing feature of modern journalism that I am tempted to bestow on it a passing notice. The subject to which I refer is the replantation of teeth, a matter which has before engaged the attention of the Society, and which promises at no distant period to pass out of the domain of experiment, and to take its place, within certain limitations as to age, temperament, alveolar integrity, &c., among accepted and recognised surgical proceedings. The revival of this subject at this time was due to the presentation of a memoir to the French Académie des Sciences by M. Magitot, giving a detailed account of a large number of cases treated by himself, and for the most part attended with more or less successful results. It is curious to observe how this "plain, unvarnished tale" became transformed in the hands of "our own correspondent," ever on the watch for things novel and wonderful—how the simple removal of teeth with partially necrosed roots and returning them after excision of the dead parts to the sockets to which they are adapted by nature, suddenly developed into the transplantation of teeth of other persons, or even of the inferior animals; nay, so fervid did his imagination become, that, not having the fear of the anti-vivisectionists before his eyes, he proceeded to foreshadow a time when the present artificial arrangements shall become obsolete, and lost teeth shall be supplied by transplanting those of animals, which having taken root and become established in artificially-created sockets, should be excised, and crowns resembling human teeth grafted on to the roots.

Although not believing for one moment that Dr. Magitot was responsible for this flight of imagination, yet as it had appeared in the leading journal I asked our indefatigable Secretary to get access if possible to the original memoir. For this purpose he placed himself in communication with Mr. Charles Tomes, who is never behindhand in bringing before the Society the latest results of scientific work, and the result of this application was the straightforward and highly interesting epitome of Dr. Magitot's paper with which we were favoured in March, the motto for which in reference to "our own correspondent" might have been,

"Now mark how plain a tale shall put thee down." This, I think, is a very good example of a new phase of journalism, in which a half truth hastily grasped forms a basis for a superstructure of the most fantastic and improbable character. On other evenings of the past session the attention of the Society has been claimed by Dr. Field on the ever-fresh and important subject of "Gold Fillings;" by Mr. David Hepburn on "Nicotine, and its effects on the Teeth, as the result of habitual Tobacco-smoking;" by Mr. Arthur Underwood on "The Functions of the Nerves of Taste;" and by Professor Flowers in his most interesting "Notes on Specimens of Abnormal Dentition in the Museum of the Royal College of Surgeons;" which, with the valuable report on Plastic Fillings, presented by the sub-committee appointed in the year 1878, together with no inconsiderable number of casual communications, constitute the Society's contribution to odontology during the session of 1879.

Death has dealt leniently with the Society during the past year, though he has not left our ranks untouched. For though by an inexorable law, to which all associations of human beings alike must bow, he never fails to exact his tribute, yet we are not now called upon to mourn the loss of those who have occupied a prominent position in our midst, or who were endeared to us by long and close personal intercourse. Dr. McQuillen, of Philadelphia, whose sudden death under very distressful circumstances occurred on March 3rd, was a corresponding member of this Society. He was a zealous promoter of the literature, as well as of the educational institutions of the profession, more especially of the Philadelphia Dental College, and was for many years one of the editors of the 'Dental Cosmos.' He was unsparing in his devotion to the interests of the profession, even to the extent of detriment to his own personal and domestic affairs, so that his early death is in every sense an unmitigated calamity to his family. I am not aware that he ever carried out a frequently expressed wish to visit this country, and he was therefore known to most members of this Society, excepting to those who had sufficient enterprise to cross the Atlantic, only by correspondence, which knowledge, however, I may state in my own case only quickened my desire for a closer acquaintance. The unhappy termination of so useful a life seems, as might have been expected, to have called forth the expression of a deep and general feeling of profound sympathy from his professional brethren throughout the Union. We have also to record the death, which took place in July last, of Mr. Patrick, of Southport, one of our non-resident members, and when, in addition, we have

made mention of the decease of Mr. Walter John Woodman, a resident member, and of eight resignations of membership from various causes, we shall have exhausted the list of our losses. To counterbalance these, however, we are able to record a large accession of new members, so that the number on the roll of the Society at the present time is somewhat in excess of that at the corresponding period of last year, and I believe of that of any previous year.

Of events of interest to the profession, though not strictly belonging to the Society, there are not wanting some two or three which may not be passed over. One is the opening of the Edinburgh Dental Hospital and School under flattering auspices, foremost amongst which should be noted the election of a distinguished member of our own speciality to the position of President of the Royal College of Surgeons of Edinburgh, a circumstance which is not only highly gratifying as a mark of personal appreciation exhibited towards one of our own body, but as a tardy abandonment of the long-existing hostility to special practice which is absolutely without parallel. Another important event is the publication by the General Medical Council of the first authoritative Register of Dental practitioners. This, which, notwithstanding its many imperfections, I regard as the most momentous event in the annals of the profession, giving value to and energising all that was previously accomplished, I gladly leave in the able hands of my successor, who will doubtless treat it with all the fulness and ability which so important a subject demands. I will only observe that the publication of this Register appears to me to be the great triumph of specialism; and those only can appraise the magnitude of the task by which it was accomplished who knew the repugnance felt to it on the part of those in authority, and the many and varied obstacles to be overcome. It is now, however, an accomplished fact, and it is not in the nature of Englishmen to let those who have unsparingly devoted their time and energies to the achievement of so great a boon, to which time will render an ever-increasing value, remain without recognition and reward. The formation of the British Dental Association must also be reckoned among the events which have signalled the year that has just passed. This necessary step to the organisation of the profession, the scope and functions of which are as yet but imperfectly understood and defined, has a great future before it, as promoting a freer intercourse and a better *esprit de corps* both amongst town and country practitioners. As, however, this is also a subject which will doubtless be brought before the Society by the new President, I shall

content myself with remarking on the difference in the scope and objects of the Association and of this Society, these being in the former political and mundane as compared with the scientific and æsthetical character of the latter. It is scarcely necessary to say that there is not and cannot be any antagonism between the two institutions, the ground covered by each being radically and essentially different; the Association taking cognisance of matters which do not fall within the scope of the Society, and being founded, in fact, for the most part, on the lines of the British Medical Association, which has, during many years, rendered signal service to the medical profession. Thus, the British Dental Association, representing or embracing the great mass of legitimate practitioners, may fitly address itself to the by no means unimportant material interests of the profession, guarding in an especial manner the purity of the Register, and providing, by means of periodical conventions, by its Journal, and otherwise, for a perfect inter-communication among its members. On the other hand, the Society, ignoring the commercial element altogether, will continue to allure and enrol in its ranks those who regard the profession as something more than the means of making an income, and who seek to advance its status by histological research, by the elucidation of interesting biological problems, or improved processes for the relief of suffering humanity. And men of this stamp, and with such aspirations, though select rather than numerous, will never be wanting, willing and worthy to serve in the temple of knowledge, to trim and tend the golden lamp, or to kindle and keep alive the sacred fire that burns on the altar of experimental science; who are conscious of inward promptings to exclaim, with the earnest-minded and philosophic Hamlet:

“What is a man

If his chief good and market of his time
Be but to feed and sleep? a beast, no more,—
Sure He that made us with such large discourse,
Looking before, and after, gave us not
That capability and God-like reason
To rust in us unused.

They know by sweet experience that in using those divine capacities, and in exercising that God-like reason, is to be found the highest, the purest, and the most enduring happiness. With them it is an article of faith, that work is health—work is life; and recognising the great law of interdependence, extending through “all sorts and conditions of men,” and believing that each one has his allotted task for the good of the commonwealth of humanity, if he will

discover it and "do it with his might," they are proof against *ennui*—that moral paralysis born of an aimless life; and to them the cynical question will never suggest itself, "Is life worth living?" Nor will those who, from temperament, mental constitution, or absence of favouring circumstances, are precluded from attaining to these heights, be without compensation or reward; for the mere social contact with men of cultivated minds, besides stimulating the intellect, makes them more liberal and appreciative in their judgment of each other; and substituting a generous and enlightened altruism for the narrowness and ego-worship which are so apt to crystallise round the character of the specialist, adds the crowning grace of refined and gentle manners.

And now, in bidding you farewell, permit me to express my thanks to the Society for the honour it has conferred upon me in electing me a second time its President; to the Council for punctual attendance, support, and advice; to the Treasurer as referee in matters of finance and statistics; to the Secretaries for zeal and energy in the conduct of the meetings; and last, but not least, to those my contemporaries, who, by their presence and countenance, have gone far to roll back the encroachments of time and to make me forget the inevitable years. (Applause.)

At the conclusion of the President's address, Mr. Gaddes announced that the list of officers recommended by the Council had been accepted by the members generally. The executive of the Society for the current year is, therefore, as follows:

President.—Alfred J. Woodhouse, Esq.

Vice-Presidents.

(RESIDENT.)	(NON-RESIDENT.)
Charles James Fox, Esq.	David Hepburn, Esq. (Edinburgh).
T. A. Rogers, Esq.	Alfred Mcara, Esq. (India).
J. Walker, Esq., M.D.	J. E. Rose, Esq. (Liverpool).

Treasurer.—James Parkinson, Esq.

Librarian.—Felix Weiss, Esq.

Curator.—C. S. Tomes, Esq., F.R.S.

Honorary Secretaries.

Ashley Barrett, Esq. (for Foreign Correspondence).	
S. J. Hutchinson, Esq. (Council).	F. Canton, Esq. (Society).

*Councillors.***(RESIDENT.)**

E. B. West, Esq.
 J. S. Turner, Esq.
 T. Underwood, Esq.
 Oakley Coles, Esq.
 W. H. Woodhouse, Esq.
 Edwin Saunders, Esq.,
 F.R.C.S.
 T. C. White, Esq.
 G. Wallis, Esq.
 W. F. Henry, Esq.

(NON-RESIDENT.)

J. Doherty, Esq. (Dublin).
 W. R. Wood, Esq. (Brigh-
 ton).
 W. Hunt, Esq. (Yeovil).
 T. W. G. Palmer, Esq.
 (Cheltenham).
 T. J. Browne-Mason, Esq.
 Exeter).
 W. Williamson, Esq. (Aber-
 deen).

Mr. THOS. ROGERS proposed, and Mr. UNDERWOOD seconded, a cordial vote of thanks to the President for the trouble he had taken over the affairs of the Society, and the courtesy and patience he had shown in the conduct of the meetings. This having been carried by acclamation, the thanks of the Society were also given to the Treasurer, Secretaries, and other officers, and the meeting then terminated.

SCOTCH DENTAL EDUCATIONAL COMMITTEE.

A MEETING of those Dentists present at the Dental Conference in October, 1877, was held in Edinburgh on Tuesday evening, the 15th ult., for the purpose of receiving the report of the committee then appointed. Dr. Smith, convener of committee, occupied the chair.

The CHAIRMAN, in a few general remarks in opening the proceedings, said that they might congratulate themselves in having accomplished the objects for which the committee had been appointed. It had been thought fit to convene the present meeting for the purpose of receiving the report and dissolving the committee. He would, therefore, call upon Mr. Macleod to read the report.

The SECRETARY (Mr. Macleod) then read the report, which was as follows :

“ Your committee have much pleasure in reporting that the objects for which they were appointed have been successfully accomplished, and the profession may now be congratulated on having attained legal recognition of a uniform curriculum of study, with the crowning advantage—to those who pass the necessary examination—of a certificate of qualification to practise. You have from time to time been made aware, from the pages of the professional journals and

by circular, of the various steps which your committee have taken to accomplish their objects. It will be needless, therefore, to recapitulate the same. But it may be interesting to know that your committee have held five general meetings and thirteen sub-committee meetings, and that all these meetings were attended well by the various gentlemen to whom you delegated the task of securing legal recognition as well as establishing facilities for efficient professional education.

"And now that these objects have been accomplished they have simply to ask from you their discharge and to express the hope that their efforts may meet with your approval. At the same time they would express the great pleasure that it has given them to place their services at the disposal of the profession; and they have to state that, although they hope now to be relieved of official duties in connection with this committee, they will still individually do everything in their power to consolidate and strengthen the advantages already gained, as well as foster all legitimate movements which have for their object the educational and scientific interest of the profession.

"The Treasurer's accounts, which show a balance of £13 5s. 3d., having been duly audited by Mr. David Hepburn, L.D.S., and found correct, your committee would recommend that the surplus be handed over to the Treasurer of the Edinburgh Dental Hospital and School, as, in their opinion, it would in this way be devoted to the purpose for which it was subscribed—namely, the advancement of Dental education."

Mr. DUNCAN (Cupar Fife), in moving the adoption of the report, said the profession were under a deep debt of gratitude to those gentlemen who had so successfully performed the work allotted to them. For himself, he was satisfied that the result of their labours—leading to a systematic and liberal training and education (which in his younger days it was impossible to obtain, and the want of which he very much felt in his attempts to acquire a thorough mastery of his profession)—this, he said, would tend to the benefit of the public at large, as well as to the consolidation of their professional interests. (Cheers.)

Mr. D. HEPBURN, L.D.S., seconded the motion, and in doing so said that it must be a source of great satisfaction to all to feel that their labours had now been brought to a successful termination. They had had many difficulties to contend against, but their united action and perseverance had enabled them to overcome these. For the success which had attended these labours they were greatly indebted to their

Secretary and Treasurer, Mr. Macleod—(hear, hear)—whose untiring energy and zeal enabled him to overcome difficulties and carry on the good work when other men would have failed. He begged to second the motion, and also to propose that a vote of thanks to Mr. W. B. Macleod be embodied in the resolution. (Cheers.)

Both motions were adopted unanimously, and a formal vote of thanks conveyed to the Secretary.

Mr. MACLEOD thanked the members for the honour conferred upon him. He said that they had all shown very great kindness and indulgence to him during his term of office as Secretary, and he also begged to thank them for the ready assistance which had at all times been accorded to him by every member of committee. He could not conclude without expressing his indebtedness, and the indebtedness of the profession, to their Chairman, Dr. Smith, for the ever willing assistance he had given at all times—"in season and out of season." (Cheers). He begged therefore to move a most cordial vote of thanks to Dr. Smith for the able performance of his duties as convener of committee, and also for his conduct in the chair on the present occasion. (Cheers.)

The motion was unanimously passed, and Dr. Smith having briefly replied, calling attention to service rendered by members of committee residing at a distance, amongst whom most prominently stood Mr. Campbell of Dundee, the committee was dissolved.

MEETING AT MANCHESTER FOR THE FOUNDATION OF A DENTAL ASSOCIATION FOR THE MIDLAND AND NORTH-WESTERN COUNTIES.

ON Saturday a meeting of qualified Dental practitioners was held at the Queen's Hotel, Manchester, to consider the desirability of forming a Dental Association for the Midland and North-Western Counties. About eighty gentlemen were present. Mr. J. Smith Turner, of London, presided. The following is the circular convening the meeting :

January 6th, 1880.

DEAR SIR,—It is proposed to hold a private meeting of Qualified Practitioners to consider the desirability of forming a Dental Association for the Midland and North-western Counties. The objects of such an association would be similar to those contemplated by the "British Dental Association" and the "Western Counties Dental Association," viz. to promote the general interest of the profession by regular meetings for conference, &c., &c., and specially to

assist in carrying out the provisions of the "Dentists Act." The opportunity of uniting all the best forces we possess for the elevation of our calling to its legitimate position is such as should enlist the sympathies of every true member of the profession. We therefore invite your attendance and cordial assistance at a meeting which will be held at the "Queen's Hotel," Manchester, on Saturday, January 24th, 1880. The Chair will be taken at three o'clock by J. Smith Turner, Esq., of London. An answer signifying your intention to be with us will be highly esteemed.—SIDNEY WORMALD, 20, Wellington Road, Stockport; W. H. WAITE, 10, Oxford Street, Liverpool.

The following gentlemen have kindly intimated their approval of the above propositions :

November 29th, 1879.

W. H. WAITE, Esq.

In answer to your letter of November 26th I have no hesitation in stating that I believe the formation of Dental Associations, embracing limited areas, will be of service both to the general public and to the profession, provided their organisation be such as shall support and strengthen the General Association—the "British Dental Association."

The Western Counties Dental Association, by the nature of its bye-laws, is, I think, calculated to secure this effect, and I shall be happy to support, so far as I am able, any similarly organised association.

I am, yours faithfully,

JOHN TOMES,

Upwood Gorse, Caterham Valley, Surrey.

JAMES SMITH TURNER, M.R.C.S., L.D.S. Eng.*

EDWIN SAUNDERS, F.R.C.S.E.	T. A. ROGERS, M.R.C.S.,
JAS. PARKINSON, L.D.S. Eng.	L.D.S. Eng.
T. UNDERWOOD, L.D.S. Eng.	J. O'DUFFY, L.D.S.I.
CHARLES VASEY, L.D.S. Eng.	S. L. RYMER, L.D.S. Eng.
R. E. STEWART, L.D.S. Eng.	H. CAMPION, M.R.C.S.E.
J. G. ROBERTS, L.D.S.I.	H. MARSH, L.D.S. Eng.
J. R. GOEPEL, L.D.S.I.	T. M. KELLY, L.D.S.I.
C. SIMS, L.D.S. Eng.	D. HEPBURN, L.D.S. Eng.
R. ROGERS, L.D.S.I.	T. MAHONIN, L.D.S.I.
J. N. MANTON, L.D.S. Eng.	D. A. WORMALD, D.D.S.,
W. C. WILLIAMS, L.D.S. Eng.	L.D.S.I.
F. RICHARDSON, L.D.S.I.	T. MURPHY, L.D.S.I.
A. COLEMAN, F.R.C.S., L.D.S. Eng.	J. H. KYAN, L.D.S. Eng.

The CHAIRMAN, who was received with loud applause, said,

* We have taken the liberty of adding to the initials of qualifications, letters indicating where they were obtained.

—Gentlemen, I thank you for the reception you have conferred upon me, and also for having asked me to preside on this occasion. I am most happy to see such a meeting for such a purpose, especially when I remember that it was called by such a limited circular. I hope the object of the promoters will be accomplished, and that out of this meeting will grow such an association as they desire to see established. I think there may be some difference of views expressed at this meeting. If there were no conflict of opinion we should not require to have a meeting at all, but I trust that these opinions will be expressed by each gentleman with due deference to the opinions held by others. We all have but one object in view, and that is the elevation of the profession to which we are united for better or for worse, and out of which we have, I presume, to earn our daily bread and the sustenance of those dependent upon us. For my own part I think it is a profession worthy of our esteem and respect, not only for the good which it confers upon society, but for the social position which it confers upon all worthy members of it. I have no idea at present of occupying your time with further remarks, but will proceed to follow out the business of the meeting, and will ask Dr. Waite to introduce an explanatory statement of the circular which he has sent out and of the general objects of the meeting.

Mr. WAITE (Liverpool) said,—I rise not to make a speech, but to offer, as Mr. Turner has said, a brief explanation of the origin and objects of this meeting. My first duty is to welcome you all very heartily to this meeting, and tender our thanks for the readiness with which you have responded to our invitation. Our thanks are due, not only to those present, but to a considerable number of gentlemen who are unavoidably absent, and who have written expressing entire approval of and sympathy with our object. The meeting originated something in this manner. The last week in November three or four gentlemen met in this hotel to talk over the subject of an association for this district of the country. We discussed the matter as well as we could *pro* and *con*. and at last decided to write a letter to the esteemed president of the British Dental Association, whom, I am sure, we all recognise as the head of the Dental profession in this country. A letter was written the same evening, and in the course of a few days we received from Mr. Tomes a long favorable contribution containing a paragraph which has been embodied in the circular calling this meeting. After receiving the sanction of Mr. Tomes, our next step was to write to our esteemed friend who occupies the chair this afternoon; and he, with that generosity which always cha-

racterises him, and with that devotion to Dental reform which pre-eminently distinguishes him, immediately gave us not only his own name, but interested himself to obtain for us the names of many other leading gentlemen in London. Having got thus far we thought it would be desirable, if we could manage it, to get a few of the local names, our object being to represent the principal towns as far as possible in the district which it was proposed to include. So the circular grew into shape. The next point was a chairman for the meeting, and here, again, we had recourse to our indefatigable friend Mr. Turner, and with that magnanimity which especially denotes him he at once agreed to put himself entirely in our hands. He was willing to attend or not as circumstances might dictate, or as our arrangements might suit, and whatever opinions we may have with regard to the object of the meeting, or with regard to the subjects which may come before us, we shall all be perfectly united in regard to the wisdom of our choice of a chairman of this meeting. The circular itself pretty clearly indicated the object for which we have come together. It is a private meeting of qualified practitioners, and I am quite sure you will understand that, in drawing a limit to the attendance at this meeting, we were not actuated by any envious feelings whatever. We wished to obtain an idea as to what were the feelings of the profession throughout the district with regard to our object, namely, to consider the desirability of forming an association for the Midland and North-Western Counties. Certain resolutions will be submitted to you. They have been drafted just to test and ascertain the opinions of the meeting, and there will be an opportunity of expressing general opinions upon each one of them, and I hope we shall elicit a free and open discussion, and I trust that in what we may do we shall be actuated by a simple, earnest desire to elevate our profession, to advance the interests of the profession, and, with a higher and nobler purpose still, that we may make it more abundantly useful in promoting the health, happiness, and comfort of the community at large.

The CHAIRMAN said,—Before calling upon a gentleman to move a resolution I may say that I have here a large number of letters from gentlemen sympathising with our movement.

Letters were then read from Mr. Edwin Saunders (London), Mr. Charles Vasey (London), Mr. Thomas Underwood (London), Mr. Joseph Wallis (London), Mr. T. Arnold Rogers (London), Mr. J. Parkinson (London), Mr. Samuel Lee Rymer (Croydon), Mr. F. A. Huet (Manchester), Mr. J. Batchelor (Birmingham), Mr. C. Sims

(Birmingham), Mr. T. S. Carter (Leeds), Mr. H. Longhurst (Leicester), Mr. A. Duff (Leicester), Mr. F. Bullen (Chester), and Mr. M. Johnson (Chester).

The CHAIRMAN said,—It is very gratifying to know that people take so much interest in the matter as is displayed in those letters. With respect to one of them, which mentions the area of the society, I may say that that is a matter for the gentlemen who may speak to-night, or who may be appointed on your council to carry out the objects of this meeting. The question of the geographical extent which you will allow your association to occupy lies before you, but at the present I think we may feel satisfied that our proceedings are watched with a considerable amount of interest.

Mr. CAMPION (Manchester) moved:—"That in the opinion of this meeting it is desirable that a Dental association should be formed to include the following counties: Lancaster, Chester, West Riding, Salop, Nottingham, Stafford, Derby, and Leicester, and that it be called the Midland Counties Dental Association." He said,—Excuse my saying a few words in endorsing all that Dr. Waite said in thanking Mr. Turner for his kindness in coming all this distance, and to express for myself and on your behalf the great debt of gratitude we owe to him, not only for his attendance here, but for the hours of labour and trouble he has given himself for years past. His efforts are not sufficiently known and appreciated amongst the country members of the profession, but that he has worked and laboured for years, at a sacrifice both of practice and time, I can fully testify, and it affords me great satisfaction to have him amongst us. The resolution I have proposed includes, as you will see, two, if not three, different subjects. First of all is the fact that a Dental association should be formed. I was hoping that our Chairman would take up that subject. The fact of your being here is a sufficient proof to me that you feel interested in the subject, and that you feel that something of the kind should be done. I must say when Dr. Waite called upon me I was very much opposed to taking any part in it for different reasons, but I received letters from some friends in London, our Chairman, Mr. Tomes, and others urging the matter upon me, and asking me to reconsider it, and the result is that I am here to show you that I do feel a great interest in the welfare of our profession, and though I am not able to take as active a part as many others, still the welfare of my profession shall have my good wishes as much as those of any one else. The proposal is that this association shall be formed, that it shall

include the counties named, and that it shall be called the Midland Counties Dental Association. There is no more for me to say than that, so far as my feelings are concerned, I believe and hope this work will be carried out in connection with the British Dental Association. It is only lately, I may say almost within the last few weeks, that I have ascertained that there are a good many men in the profession who do not consider the move which we are now taking a move in the right direction. I believe we are moving in the right direction. I thought we were much more unanimous, seeing that the Dental Act does not give us what we want, and I believe we shall endeavour to carry out the Act of Parliament we have got. It appears to me that the Act does not give us very much. They say there never was an Act of Parliament through which you could not drive a coach and four. By that it is meant that there never was an Act so perfect when it was passed but that it subsequently required mending. We must remember that we have an Act, because the difference is very great between altering an Act and passing an Act. The fact that Parliament has once given us an Act is a proof that they have admitted the principles that are claimed in that Act, and having once admitted those principles it is much more ready to alter and amend those principles, and even to enlarge them, than it is willing in the first place to give. Therefore, the fact that we have an Act, though it is not so perfect as we could wish it, is a great fact. As time goes on and it wants amendment we shall only have to prove that, and we should have less difficulty in doing that than in attaining the status which the Act gives us. If any gentleman objects that the Act does not give us enough our answer is that we have got in the thin end of the wedge, and if we put our shoulders to the wheel we shall obtain all that we require. It is a thing that must be done, and I am convinced that we can do it if we are united. I do not know that there is anything more for me to say; it is for you to decide. I hope you will carry this resolution unanimously.

Mr. NICHOL (Leeds), in seconding the resolution, said,—After the very able remarks we have just heard it seems that there is very little left for me, as a young man and a young member, to say. I wish the Chairman had given a tone to the opinion of the meeting by some remarks in opening the meeting. It appears that in his wisdom he thought it well to hear a general expression of opinion, and that any remarks of his would be very apt to lead a good many of us by the nose, if I may use the expression, on account of the great respect, I might almost say reverence, we have for him in

the profession. I am very much disappointed that I am the only member of the profession from Leeds. I did hope that I should have had a companion, but the attendance was limited to qualified men. I should have liked to have brought one or two unqualified men whom I know and respect very much, both for their education and attainments in the profession. I have great pleasure in seconding this important resolution, and my own impression on the matter is that it would be very desirable to have it as a support to the large association. I feel it would be a great mistake and a misfortune if our profession gets split up into a number of small associations. We have quite sufficient division already in the British Dental and the Odontological Associations. I feel sorry that our business cannot be managed by one society, having branches for different kinds of business. One important work which will come before our Association will be the cleansing of the Register, which is a terrible subject. Upon this matter I feel very sensitive, and should be inclined to be very liberal, terribly liberal. All Acts of Parliament are ambiguous in their terms; the Dentists Act is no exception. I am glad the cleansing of the profession is not in our hands, or I am very much inclined to think that there would be a repetition of the persecutions of the church. It would be well for us to express most liberal opinions. There are many unqualified men to whom we owe great respect, not only for their attainments, but for the principles they have given us. Of course that matter lies with the Council, and I have no doubt they will take care that no injustice is done; and for my own part I may say that a case would have to be a very bad one before I brought it under the notice of the Association with a view to a prosecution. I have great pleasure in seconding the resolution.

Mr. RENSHAW (Rochdale) said,—It is with pleasure that I, as a young man, rise to support the resolution which has been moved and seconded, and also to give a hearty word of welcome to our respected Chairman this afternoon. I have thought for some time that it would be desirable for us to have an association for the western and north-western counties, and in this populous district in particular, not only with the object of carrying out the provisions of the Dentists Act, but also that we might associate together from time to time to throw our ideas together, and thus make ourselves better fitted to fulfil our destiny, and more proficient in our own private practice. And if we are to carry the project of this meeting to a successful issue we must sink our petty differences, and, working for the good of all, endeavour to make the Association a greater success by being identified

with it. I am delighted to know that the inauguration of a society like this will be an immense advantage to young men like myself who are endeavouring to carve out for themselves an honorable position in the profession. And it will be valuable as a school to those men who will eventually take a lead in Dental politics. We cannot expect our leaders always to be in the first rank, but an association of this kind will be of immense importance in training young men for the work to which they will subsequently devote their attention. I have great pleasure in supporting the resolution.

The CHAIRMAN said,—Of course this resolution is of a tentative character so far as the geography is concerned. The gentlemen who have drawn it up have too much modesty to suppose that the wisdom of the Association centres in them, and the question of the extent of the Society will be discussed more maturely by the Council. My own feeling is that I should like to see the appreciation of the Act of Parliament which we have extended, and I feel that the members of the profession are beginning to take an interest in the matter. The fact of this meeting being held is a sufficient proof that there is an interest taken by the members such as has never been shown before. Within my memory it was impossible to get such a meeting as this out of the whole profession, and now we can get it out of a small locality, so to speak.

The resolution was then carried unanimously.

Mr. STEWART (Liverpool) moved:—"That the Association consist of a president, treasurer, secretary, council, members, and honorary members; that the constitution be substantially the same as that of the British Dental Association; and that the officers of the British Dental Association resident in London be *ex officio* honorary members of this Association." He said,—I have very great pleasure in coming to the practical business, which will not detain us very long. We must have some one to carry on this gigantic work we have taken in hand. I am glad to say I am not in the position of the gentleman from Leeds. I am very happy to see that Liverpool is well represented here, and I hope that when a meeting takes place in Liverpool we shall see Manchester as well represented. I leave the resolution before the meeting, and I should think it will be carried unanimously.

Mr. RICHARDSON (Derby) seconded the resolution.

The PRESIDENT, before putting the resolution, said,—The question has been mooted by one or two speakers as to the connection which this Association should hold with the

British Dental Association. Whether it should be independent, or whether it should be a branch association. I think we are all of the opinion that it should be, if possible, a branch association. But on account of the paucity of the numbers of those who have applied for membership of the British Dental Association, I have really been afraid to urge that as a condition. That will be for you to consider, and you must decide which position you will occupy. We have found it necessary within the last few weeks in London to take steps to register the British Dental Association under the Companies Act, with a view to limitation. This has given a considerable amount of work, inasmuch, as you may suppose, we are new to the registering of companies. If, when we are registered, we can secure the protection of registration to branch societies, it will be a question with you whether you should not become a branch society and partake of this protection through the one registration, or whether you should go to the trouble of obtaining a registration on your own responsibility. It seems to me that the best course would be to manage the registration through the central Association, and make local ones purely branches. I hope that time will come, but we must go at the matter carefully on account of the smallness of the number of applications for membership of the central Association. I was afraid to urge it lest it might retard your progress.

The resolution was then unanimously carried.

Mr. MAHONIE (Sheffield) said,—The object which has called us together is one of interest to all of us, not only to the *bona fides*, but to every one practising Dentistry. Even chemist Dentists, and all of us, will have to look about after this resolution is past. The resolution I have to move is:—“That the objects of this Association shall be (A) to render assistance as far as possible in carrying out the Dentists Act; (B) the general consideration of subjects affecting the interests of the Dental profession; (C) the reading and discussion of papers on operative and mechanical Dentistry; and (D) the cultivation of a generous feeling amongst practitioners throughout the kingdom.” I think each one of us will feel this resolution come home to him. To render assistance, as far as possible, in carrying out the Dentists Act is a thing I look upon as necessary before the chemist Dentists take a hold upon the public. You may remember the story of the celebrated London doctor, who met a quack and asked him how it was that he, the quack, could live, have his equipages and servants, whilst he, the doctor, could scarcely live? The quack called his attention to the people passing, and said that out of every hundred ninety-nine that

go up and down there are fools. They come to me, and you get the wise man. We may get the wise men, but I think something should be done to prevent these chemist Dentists getting a hold upon the public. I think there should be some one appointed in every town—in my own town a man like Dr. Merryweather—who should send up proofs that an applicant was a suitable man to be registered. That would have prevented many infants being Registered.

Mr. D. A. WORMALD said,—I second this resolution with very great pleasure. I rejoice to see the establishment of a society like this, because, if there has been one bane of our profession more than another it has been an absence of that feeling of kindness and charity which should be general amongst us. And I am sure meetings for the reading of papers and discussion and the interchange of ideas will benefit us individually, and will be an incalculable advantage to the rising generation. We should feel that

“My honour is my life; both grow in one.

Take honour from me, and my life is done.”

I trust this Association may grow and succeed, and that we shall all do what we can to help it forward.

Mr. CRAPPER (Hanley) said,—It is time something was done to protect the profession, inasmuch as there are many men practising who have no more just claim to do so than a blacksmith had to act as a veterinary surgeon. I think it is very desirable that the Act should be enforced, and I hope we shall do something in that way as soon as we are in a position to do so.

The resolution was then unanimously adopted.

Mr. ROFF KING (Shrewsbury) moved the following resolution, which, he said, would thoroughly recommend itself to the meeting :—“That the following gentlemen be constituted the council to draft bye-laws, nominate officers, and prepare details to be submitted to a general meeting, to be held at a date to be hereafter decided upon :

Campion, H., Manchester.

Hepburn, S., Nottingham.

King, Roff, Shrewsbury.

Kyan, J. H., Preston.

Mahonie, J., Sheffield.

Manton, J. N., Wakefield.

Murphy, J., Bolton.

Nicol, W. H., Leeds.

O'Hara, W. J., Leicester.

Renshaw, J., Rochdale.

Richardson, F., Derby.

Stewart, R. E., Liverpool.

Wormald, D. A., Bury.

Wormald, S., Stockport.

With power to add to their number.”

He said,—I take rather a different view from one or two gentlemen who have spoken with respect to registration. I should be disposed to be very liberal indeed. You must

remember that though a place on the Register does give to some people the right to practise, it does not give them the necessary ability to do so. These things should be left to the Council, and I think the less said about them the better, and the more we do the sooner we shall feel the benefit of it.

Mr. J. N. MANTON (Wakefield) seconded the resolution. He said,—The formation of this Association, if properly carried out, is of the first importance to all of us, and to our well-being as a professional body. We have been too restrained and too exclusive, and I shall be very glad to see the members of our profession brought periodically together for the discussion of professional topics, and I think that will go a long way to remedy the existing state of things. The resolution states that the Association shall be similarly constituted to the British Dental Association, and I hope in framing the rules that this will be borne in mind, for though I am a provincial I have always had the very highest confidence and respect for those time-honoured members of the profession in London and elsewhere who have spent so much of their time for our mutual benefit, and I think it would only be a proper compliment that our Association should follow their lines, and I have no doubt that we shall be successful.

It was suggested that the name of Mr. A. W. Whittingham (Hanley) be added to the list.

The name of Mr. F. A. Huet (Manchester) was also suggested.

The CHAIRMAN said,—I read a letter from Mr. Huet, who said that he had given so much time to the question of Dental reform that he felt he must now devote the whole of his energies to the requirements of his profession. I think if you add many names to the council you will find it unwieldy. Punch's council, which consisted only of the chairman and secretary, was the best council which ever existed; and if you look at the composition of this council you will find members from Manchester, Liverpool, Nottingham, Leeds, Bolton, and nearly all the principal towns in the district. Would it not be well to leave that matter in the hands of the council, who, it will be seen, have power to add to their number.

H. COLEMAN, D.D.S., said,—The name having been once put, I think, should be voted upon.

Mr. STEWART.—You are not entitled to say anything. You are not a qualified Dental practitioner.

Mr. CRAPPER said,—I should not have interfered with the composition of the council, only I found that you had not a representative of Staffordshire.

Mr. MASTERS (Manchester) said,—As Mr. Coleman is not allowed to speak, I beg to move that Mr. Huet's name be voted upon.

Mr. GOEPEL (Liverpool) said,—You must be very careful that you do not make your council unwieldy, as your chairman has said. I am sure if Mr. Huet were here he would not desire his name to be added to the list. I move the adoption of the names without that of Mr. Huet.

Mr. O'DUFFY seconded the resolution, and after some discussion the name of Mr. Whittingham was withdrawn and the original resolution was passed.

On the motion of Mr. GOEPEL, seconded by Mr. HEADRIDGE, Mr. Waite was appointed convener, to act with the council and call meetings.

Mr. W. J. CHENEY asked,—Is the council to consist only of those who hold diplomas from English colleges? The only reason I ask is because a great deal has been said about liberality, and if it is a fact that none are on it but those who hold diplomas there is no liberality.

The CHAIRMAN.—The resolution is passed.

Mr. CHENEY.—Very hurriedly.

Mr. STEWART.—I beg to call you to order, sir. The resolution was not passed hurriedly.

Mr. CHENEY.—That is the second time Mr. Stewart that you have called people to order.

The CHAIRMAN.—I cannot allow you to speak now that the resolution is passed. It was passed deliberately and intentionally, and you must excuse me if I correct you when you say it was passed hurriedly.

Mr. CHENEY repeated his question.

The CHAIRMAN.—I really cannot tell you. I understand that all the gentlemen here are qualified in some way. Some gentlemen may hold that registration is a qualification.

Mr. CHENEY.—I do not hold a qualification on the Register. I was in *bonâ fide* practice before the passing of the Act.

Mr. GOEPEL.—Then we cannot hear any more.

Mr. CHENEY.—I received a circular, but if I had known the kind of meeting it was to be I should not have come.

The CHAIRMAN then said,—I think we may reasonably congratulate ourselves on the result of our meeting. We have come together from various quarters, bringing with us a variety of opinions, and, may I venture to add, various prejudices, and perhaps not a few antipathies, and yet, after an hour or two spent in amicable debate, we have put our intentions and desires into a business-like form. We have

established a Dental Association for the Midland Counties. Such associations are by no means new, for there already exists one embracing the south-western counties, and there also exists a central body, the British Dental Association, for the representation of the United Kingdom at large. With regard to the establishment of local associations, I think that, with proper arrangement and care, they may be of the utmost value, not only to the localities to which they belong, but to the whole profession. In their respective localities they will become centres of intercommunication, where men will meet with the usual results, discovering that the mote in their brother's eye, and perhaps the beam in their own, have been mere shadows rather than substantial obstacles to friendly intercourse. I do not mean by this that such associations are to destroy all moral responsibility, or to relieve us from the necessity of discriminating judgment; on the contrary, they will increase the burden of this hard, but necessary, task of judging our fellow-men, but as we will have to do this collectively, rather than individually, there will be less personal and local feeling in the matter, and as the result of our judgment may perchance involve the penalty of professional ostracism, it will be exercised with befitting deliberation and caution. They will also train men to fill official positions. The discipline of responsibility will make itself felt on those who take office, and they will find that the impatience so often manifested by those who only look for particular results is frequently as unreasonable as it is ungenerous. They will find that many conflicting views and interests have not only to be encountered, but conciliated, and, as far as possible, harmonised. They will learn the virtue and necessity of a true and honest spirit of compromise; that things are not to be accomplished by a rush, or by a stroke of the pen, but by patient and self-denying labour; that opinions and circumstances have to be moulded and bent to a set purpose, and not to be rudely assaulted and trodden down; and that every subject has to be approached cautiously, and handled skilfully and delicately, before it can be made subservient to the great end in view. Local associations, I think, will cultivate this perception of things, this power of dealing with circumstances, to a much greater extent than any one central association alone could do. Then, with regard to the great object which is the business of us all, viz. guarding the position of the profession as legalised in the Dentists Act, local associations will ever be, if not an absolute necessity, a powerful auxiliary in maintaining that position which has been won after years of

striving and struggling against what sometimes seemed hopeless odds.

"One man shall sow and another shall reap." Those words are not only Holy Writ, but their truth is written in the whole history of the world, and in the history of every individual in existence. We must remember that this great boon which we have won will become the birthright and heritage of our successors, and that in ourselves accepting it we have also undertaken the responsibility of handing it down to our successors, not only unimpaired, but strengthened and beautified by our labour and self-sacrifice on its behalf. And how is this work to be accomplished? By isolated efforts? By the persistent struggling of a few individuals? By sulking in a corner and childishly hugging some pet idea? By a selfish appraising of our personal wants, and thanking God we are not as other men are? By foolishly posing on some point of imaginary superiority, local or educational, refusing to guide and refusing to be guided? By neglecting to lead and refusing to be led? No, no, I say, by no such conduct. Those are the foolish things which embarrass the men of progress. If we wish to preserve our Dentists Act, if we wish to transmit it to posterity, with all its munificent provisions for the public and for our profession, our conduct must be far otherwise. We must lay aside selfishness and apathy, we must be prepared to sacrifice, it may be, ease and comfort, but assuredly time and money, but a very little money after all compared to the benefits we receive. We must lay aside individual jealousies and local jealousies and prejudices, all local jealousies of other localities, and all prejudices against this or that form or centre of power, and seek that which is reasonably to be preferred as serving the great cause or consolidation of the profession. Above all things selfishness or self-seeking must be set aside, for, however zealously a man with selfish motives may appear to work in a cause, he will assuredly forsake it when he has achieved his own purpose, or when it ceases to assist him towards his own ends, and leave the matter to sink or swim so far as he is concerned. But this tendency to forsake an undertaking at certain junctures has another and more dangerous, because less obvious, source than this naked and despicable form of selfishness. When men have long been striving and looking forward to the attainment of some special object, the final success seems to unnerve them. They rest, and think they are thankful when they are only supine and indolent; they neglect to guard and protect and truly possess the fruits of their labour, till they are horrified by the stench of rotten

garbage, and startled by the sight of rank weeds luxuriating in the ground which had been so assiduously tilled.

Gentlemen, this is a dark description of a sad phase of human nature, but I do not believe it is overdrawn, and with deep humiliation I say it is very like the position of the Dental profession at the present time. We have worked and toiled and got our Act of Parliament, an Act which, notwithstanding all carping and want of appreciation, has been pronounced by several of the best legal authorities in the land to be as good a measure as could possibly be procured, and in every respect suited to its object. And yet the Act, procured at small cost and little trouble, except to a few zealous men, some of whom are now trying to organise these branch associations, I say it advisedly, this Act may easily become a dead letter. Are we surprised to hear this?

Let me tell you that it is now nearly twelve months since, at a meeting of Dentists in London, the Representative Board of the British Dental Association was appointed by the vote of over 200 persons. Since that time till now, although the Board has gone on steadily with its work, and used every effort to induce men to join the Association, the number of members has not yet reached 180. In other words, the profession has only advanced about £190 to enable the Association to carry out the provisions of the Dentists Act and all the other objects for which it has been established. After this who shall say that the dismal picture of lost opportunities which I have laid before you has been overdrawn? I most sincerely hope that this and kindred associations will serve to disperse this fearful lethargy which seems to overhang us. I hope yet to hear a movement amongst the dry bones of indifference, and see the profession rise to the height of the occasion. I sincerely trust I may not be disappointed in those expectations, but at the same time I would venture to impress upon you the true policy of strenuously supporting the central Association while you so wisely cultivate your local intercourse. So fully am I possessed of this opinion that I hope ere long to see the membership of the British Dental Association made an essential to the membership of all local or branch associations, and so while contributing to its strength they will also be direct partakers, or rather possessors, of its power and influence. The necessity for a national association, having its centre in London, is obvious. I lay aside the facilities of visiting London from all parts of the country, the annual pilgrimage which many men like to make to the metropolis, &c., for these things are familiar to all; but there are other points which are of even more importance—the

proximity to the centres of power, the Privy Council, the Medical Council, and the Houses of Parliament—the opportunities of personal communication with the authorities instead of by writing, and the opportunities of learning and checking any attempts which may be made to alter to our disadvantage the provisions of the Act, and above all, the paramount necessity of a considerable fund for the protection of our interests as a whole—a fund which I am sorry to say is not yet in existence. As it is absolutely necessary that the profession should bestir itself in this matter, we may usefully endeavour to ascertain how far the prevailing apathy is due to some misconception of the true position of affairs.

There seems to be an opinion, entertained rather extensively, that the business of the Medical Council is not only to supervise Dental education and to register Dentists under the Dentists Act, but also to take all necessary measures to defend the provisions of the Act against all who may seek to infringe them. We must clearly understand that the Council never has undertaken, or is it ever likely to undertake, any prosecutions in defence either of the Medical or the Dentists Acts. The duties of the Medical Council are distinctly those of supervision and registration. Its title is “The General Council of Medical Education and Registration of the United Kingdom,” established under the Medical Act of 1858 (sec. 2). The Dental Reform Committee was instructed to obtain compulsory education and registration; hence it at once took steps to place the Dentists Act under the care of the same body which has so efficiently performed the duties assigned to it by a previous Act of Parliament. And I think we may consider ourselves most fortunate in having secured such a position for our profession. The Council takes cognisance of all curricula and of all examinations carried on by legally constituted licensing bodies, and it has power to refuse registration to the holders of diplomas from such bodies as may adopt an inferior standard of education, or may exhibit any laxity in their examinations. It has also power to remove names from the Register when, through a special committee, it is satisfied that the representations of objectors are correct, but in no instance has it made investigations for itself, and although it has sometimes made some compensation or grant towards the expenses of a prosecution, it has never been the primary mover in such a matter.

It should be clearly understood that the Dentists themselves must collect the cases of incorrect registration, and always in the future detect and expose all cases of violation of the Act and bring them before the Medical Council in a

distinct and tangible form. Every Act of Parliament has sooner or later to be interpreted by a court of justice; it may therefore be necessary to bring one or more cases to a legal tribunal, and this the Dentists must also do for themselves. I do not say that if we be driven to legal proceedings the necessary funds will not be forthcoming from one quarter or another, but it is not fair to throw all the burden on a few; besides, these men cannot always act for us. We must have a strong and well-organised association to carry on the work, however well it may have been begun.

The reasons for the position taken by the Medical Council may be briefly stated. The Council has undertaken the supervision of the medical profession as well as the registration of all its members. To it is referred all questions which may arise regarding changes in the medical curriculum or in the system of medical examination, all contemplated changes in the medical laws, or anything affecting the interests of the medical profession, or that is likely to alter the complexion of the law towards it. The Council has also to keep correctly the Medical Register; this is a complex and expensive business, which carries off a large portion of the funds of the Council, and if the Council were to engage in litigation also, it would be bankrupt in a week. Now, the relation of the Council to the Dental profession is precisely the same; it has undertaken the supervision of Dental education and the publication and maintenance of the 'Dentists' Register.' The question then arises, Will the discharge of those functions absorb the large sum of money which has been received in registration fees? In answering this we must consider the work which has to be carried on, and how far the continuation of fees is likely to support the running expenditure. What is likely to be the addition to the profession during the next ten years? Shall we say 50 per annum? This at a fee of £5 each will yield £250 per annum, a sum wholly inadequate to meet the expenses of the Council in reference to the Dentists Act. We hope soon to give ample employment to the committee which the Council has appointed for the elimination of names from the 'Dentists' Register.'

Now, although we have found men in our own ranks who have worked for us, aye, and spent money too, without seeking any recompense, we cannot expect the eminent men who compose the Medical Council to sit in committee on our affairs on terms other than those accorded for committees on medical business. Then, again, the Register has to be sold at a price which admits of no margin of profit—rather the other way—and the annual publication of it is attended

with a constantly recurring expenditure, whilst the number of copies which is distributed annually to public offices, courts of law, and such places, amounts to nearly 1900, so that unless the Council husband the reserve fund with which it has been furnished it would soon be unable to continue its functions. It is only twenty-one years since it was established by the Medical Act, and notwithstanding the immense sum it received from the medical profession, and the large revenue it receives annually from medical registrations, its funds are now at a very low ebb. Yet I venture to affirm that the greatest enemies of the Council would have some difficulty in proving against it a charge of extravagance. We see, then, that the notion of the Medical Council having enriched itself at the expense of our profession is quite fallacious. The Dental fund has to be kept quite distinct from all other funds, and its account submitted to the Privy Council, and if the time should come when its coffers are too full the Act provides a channel for the overflow in "the promotion of learning and education in Dentistry and Dental surgery." To those who are holding back from the support of the British Dental Association and kindred branches I say you cannot shelter yourselves under the excuse of the supposed inaction of the Medical Council. There are yet other excuses for holding off made by many. "Do something for us and we will support you," say some. "Give us something for our money and we will support you," say others. To my mind those expressions savour somewhat of meanness. May not those who have given time, and money, and strength, without stint, who have gone to London again and again to forward the cause, point to what they have done, and say, "If we have not done all you want or all you expected we have, at least, given you a very large instalment of what is necessary. Meet us half way, and provide us with the means, not to recompense ourselves, but to carry on the work to completion?" Those who have done the work are those who have most liberally subscribed towards the necessary expenses, and now is the work to be ruined for want of action on the part of those for whom it has been wrought? Surely all the penny wisdom and pound folly of the country has not been embraced in the Dental profession. There are nearly 5000 names on the Register. Suppose 500 have no right to be there, suppose 1500 more to have assumed the right to register for fear of some undefined contingency arising out of the Act, that would leave about 3000 who have a legitimate place on the Register. Out of that number about £600 was collected for the Dental Reform Fund. By dint of the closest economy

the Dentists Act was carried through the Houses of Parliament for about one third of the lowest possible computation of the cost of such measures, and yet when the promoters ask you to rally round them and form an association which will carry the Act to its legitimate end the profession responds to the extent of £180. Do not let it be forgotten that these gentlemen only wish to establish this Association, and that at its first annual meeting they are ready and willing, only too willing in many instances, I fear, to give the reins of government to others. They ask for no long lease of power. What they ask for is confidence and support so that they may employ the power invested in them for the good of the cause which they have at heart, and this support has hitherto been but grudgingly rendered, nay, almost denied them.

As many do not seem to know what has been done I will, if you will bear with me a little longer, try to state this matter briefly. An Act of Parliament has been procured amending the law relating to Dental practitioners, containing in all forty clauses. It not only provides for education and registration, but it affords all the necessary safeguards which are required for the enforcement of such provisions. It puts a fence around Dentistry which cannot be evaded, and if it does not make us one sheep with one shepherd, it draws us all into one fold. It confers the most important power of recovering fees for services rendered. It gives certain exemptions, as from serving on juries, inquests, &c., and from corporate or parochial offices, and "the name of a registered person shall not be returned in any list of persons liable to serve in the militia, or in any such office as aforesaid." It also withholds the privilege of any person registering a foreign diploma, and from practising under its ægis without the distinct consent of the Medical Council. This provision seems to have given a little dissatisfaction to some gentlemen who hold foreign diplomas, and they have felt that they have been treated with some degree of injustice. I would remind those gentlemen that it is impossible to frame any Act of Parliament which will glide through the maze of conflicting interests and jar upon none. I believe that there is not any section of men touched by the Act who may not find, and, indeed, have not found, cause for discontent. The old practitioner and the young practitioner, the L.D.S., the M.R.C.S., and the D.D.S., the non-advertiser and the advertiser, and even the village chemist who has registered under the advice of the 'Chemist and Druggists' Journal'—one and all have found cause for complaint. Surely the woe which follows "all men speaking well of you" will never reach the

Dentists Act. What a colourless thing it must have been to have pleased everybody. The Act had, in maintaining the high standard of Dental education, to face the fact that in no other country was the standard reached. But, as the Medical Council demands "sufficient guarantee" in connection with home diplomas, so it was considered right that it should demand like guarantees in connection with foreign diplomas. Again, if a foreign diploma be once admitted to registration, all following diplomas from the same school must be admitted, unless the conditions of graduation have been subsequently lowered, a process which, on the part of some foreign bodies, would be very difficult.

Further, professional qualifications confer "rights and privileges" only in the country in which they are granted, and hitherto we have been content to be governed by our own laws without the application of those of the foreigner. That certain foreign diplomas can be registered may be seen by reference to the 185th page of the 'Dentists' Register,' and it will also there be seen that only two gentlemen have cared to register as foreign Dentists and to sail under a foreign flag. That the Act does not do all that has been expected of it is a grave offence in the eyes of many estimable persons. But an Act of Parliament is not an enchanter's wand. We may make and remake laws, but there will still be "cakes and ale, and ginger will be hot i' th' mouth." The liberty of the subject is a sacred thing in this country, and I, for one, say long may it be so. Those who expected to see the profession transformed on the 23rd July, 1878, as if by magic, must be woefully disappointed. We are not, however, in the slough of despond into which some kind critics prophesied the profession would be landed by the Act. I acknowledge we are in a woeful plight, but not because of the Act. Now, in place of despondency there is hope, and in place of darkness there is light, and, if the profession be but true to itself, our highest hopes will one day be realised to the utmost. Why do you not stop advertising? What is the use of an Act of Parliament which allows a man to distribute cards, calling himself a Surgeon-Dentist, and going from house to house canvassing? Such was the burden of a letter which appeared in one of the Dental journals a few weeks ago. In reply, I say what would be the use, or when would we get an Act of Parliament which could or would even venture to try to prevent it? And yet many people seem to forget all that the Act does for us, and say that it is a failure because it does not stop advertising. But, say they, advertising is abolished in the medical profession.

Now, without saying that the Drs. So-and-So, who advertise

liver pills and blood purifiers, and the pills which will cure everything at 1s. 1½d. per box, are legitimate members of the medical profession, I would point out that, although these men may assume the title of Drs. and advertise, this does not excuse the legitimate practitioner in the eyes of his professional brethren who would venture to do likewise. But to narrow the matter still more, I saw a remedy for consumption and various other maladies, or rather symptoms of the same cruel disease, prepared under the direction of a L.R.C.P. Edin., and M.R.C.S. Eng., advertised in a Manchester paper lately sent to me with some Dentists' advertisements, which, compared to the other announcement alluded to, are in themselves harmless so far as advertising itself goes. This shows that advertising by members of the medical profession is not yet entirely unknown, still, amongst the 20,000 medical men on the Register, advertising is nearly abolished. But it has not been abolished by Act of Parliament, but by the medical men themselves, and so must and so shall it be with Dentistry.

The men who will henceforth assume the title of Dentists must have passed through a long and expensive course of study. This will be a guarantee to the public which no advertisement can enhance, and with the professional iron deep in his soul, with the professional feeling imbibed during four years' intercourse with professional teachers and fellow-students, a man will hesitate before he casts all this aside and submits to professional obliteration for the sake of a questionable advantage in the commencement of his career, which will prove a millstone around his neck for ever after. Just as herbalists and bone-setters flourish now, despite all Acts of Parliament, so will tooth makers and tooth drawers continue to exist, and as before, the chemist and druggist, the barber and the blacksmith, will continue to operate on the teeth in their own fashion and their own risk, just as the chemist prescribes over the country and sells the drugs he advises his customers to buy. And I would ask, Why should it be otherwise? May not all men be useful to the community if they do what they profess conscientiously and honestly? The only thing we can do is to prevent people calling themselves what they are not, and appearing before the public under a title and in a capacity for which they have not prepared themselves in a legitimate manner, and this is done, both for the public and the profession, by the Dentists Act.

We, who are on the downward slope of the hill of life, may not live to see it, but if you state the age of the youngest person who has found a place in the 'Dentists' Register' to

an actuary in an insurance office he will tell you almost to a day the date when the race will become extinct. While there exists that peculiar impatience under suffering which induces people to prefer the rash and unscrupulous, but plausible, generalisations of the empiric to the cautious and scrupulous searchings and deductions of science, so long will quackery flourish; and I cannot help thinking that those unreasonable expectations regarding the Dentists Act partake much of the same impatience that feeds quackery and quacks. We must not forget that our profession, notwithstanding the recent claim which has been made to its possession by the medical press, has been allowed to grow and spread with all its vices and all its virtues mixed and jumbled together without head, or guide, or safeguard of any kind; that the canker-worm of advertising has eaten into its very heart, till many of its members cannot see, and many do not care to see, the unprofessional character of the practice. And yet people expect that by a stroke of the pen this baneful system is to be destroyed.

To sum up, gentlemen, you will see that I claim for the Dentists Act that it has put a fence around Dentistry; that it has effectually checked a downward tendency which nothing else could have arrested; that it has defined our position and translated a calling which, with some show of reason, has been stigmatised as a trade, from dubious and debateable grounds into the assumed position of a profession; that it has conferred certain privileges and exceptions in a way which admits of no cavil; and that it has opened up a sure path to the regeneration of the Dental body. On behalf of this Act I ask you to support not only this and all kindred branch associations, but also the central Association, the Representative Board of which is formed of members from all parts of the United Kingdom. As we turned off the tap suddenly and securely, so we had to cast the net widely, and while there are many men well up in years registered, with whom we would scruple to interfere, and many others who have come upon the Register under mistaken notions or for other motives than the practice of Dentistry, still there are a large number of youths who have no claim of any kind, and who will go further than need be to perpetuate the race of pretenders which preys upon the public, and with such we ought to be able to deal at once. It is not with chemists in *bonâ fide* practice and also in *bonâ fide* practice as Dentists that we wish to interfere, but with those persons who have registered in the 'Dentists' Register' as *bonâ fide* pharmacists and Dentists, but who cannot lawfully call themselves pharmacists, &c., or on their own responsibility lawfully practise

pharmacy. Pharmacy Act, 31st July, 1868, Section I:—"From and after 31st of December, 1869, it shall be unlawful for any person to sell, or keep open shop for retailing, dispensing, or compounding poisons, or to assume or use the title 'chemist and druggist,' or 'chemist or druggist or pharmacist,' or 'dispensing chemist or druggist,' in any part of Great Britain, unless such person shall be a pharmaceutical chemist or a chemist and druggist within the meaning of this Act *and be registered* under this Act." Certain assistants are registered and appear as *chemists and druggists* in the 'Chemist and Druggists' Register.' See Section 3, Pharmacy Act 1868.

But, gentlemen, suppose we have to enter into litigation, who is to be the prosecutor? I, for one, can answer, not the Hon. Secretary to the British Dental Association, and yet, by nature of his office, he is the person who, at present, would be looked on to act in that capacity. We ought to have in our service a responsible and capable secretary who would do for us this and much other work which is at present necessarily left undone. Such a person is not to be found unless we be prepared to pay him a reasonable salary, and this the profession should be able to do if it act together. To those who want something tangible for their money I may say that we purpose to have, besides annual meetings at different towns, a 'Journal of the British Dental Association.' The editors are Mr. Coleman and Dr. Walker, and there is a publishing committee appointed to co-operate with them. In the meantime the journal will appear monthly, and the first number will, I expect, be issued on the 15th of March, and every member of the Association will be on the subscribers' list, and entitled to a copy of each issue. The journal will be prepared to receive reports of the meetings of branch associations, discuss all professional questions, and protect the interests of the profession generally. Its contents will be such as to give it a good position in the medical literature of the day, and as it is to be managed by responsible editors, in co-operation with a publishing committee chosen from members of the Association, it will be the organ of an accredited and responsible party, and not the irresponsible mouthpiece of a single individual. If there be any professional Oliver Twist who wants more for his guinea he will have to wait a little longer for the good time coming.

I have to apologise for having detained you so long, but as Dental reforms received its great impulse from Manchester, I have taken this opportunity of sounding the note of alarm in the same city, and trust that the second call may be as effectual as the first. If we be united we will, by our

weight alone, give the movement an impetus which will carry it on to success. I do not think I am too sanguine in believing that when that part is fully understood the profession will gladly do its duty. Let every member study the provisions of the Dentists Act, the aims of the British Association, and then our success is assured.

On the motion of Mr. S. WORMALD (Stockport), seconded by Dr. WAITE, a vote of thanks was accorded to the Chairman, and the proceedings terminated.

The reporter asked for the list of names of those at the meeting. They who held it said they preferred not to give it. There were about eighty in the room, among whom our correspondent noticed the following, and many others whose names could not be ascertained :

Allen, J., Manchester.	Masters, J., Manchester.
Bonnalie, G., Chester.	McOwen, W., Blackburn.
Brindly, W. F., Sheffield.	Molloy, J. H., Manchester.
Brookhouse, R., Manchester.	Murphy, T., Bolton.
Campion, H., Manchester.	Murphy, J., Derby.
Cheney, W. J., Manchester.	Newman, W. J., Liverpool.
Coleman, H., Manchester.	Nicol, W. H., Leeds.
Crapper, J. S., Hanley.	O'Duffy, J., London.
Crocker, H. C., Manchester.	O'Hara, W. J., Leicester.
Dilcock, T., Liverpool.	Pratt, G. W., Manchester.
Dopson, D., Liverpool.	Renshaw, J., Rochdale.
Dreschfeld, L., Manchester.	Richardson, F., Derby.
Fletcher, J., Warrington.	Roberts, J. G., Liverpool.
Goepel, J. R., Liverpool.	Sims, W., Manchester.
Headridge, P., Manchester.	Smith, C., Manchester.
Headridge, W. M., Manchester.	Stewart, R. E., Liverpool.
Jackson, A. H., Manchester.	Sutcliffe, J., Bradford.
Jordam, S. J., Manchester.	Waite, W. H., Liverpool.
Kelly, J. M., Manchester.	Walker, R., Manchester.
Kelly, W., Manchester.	Warrington, J., Manchester.
King, R., Shrewsbury.	Watts, F., Manchester.
Leadbetter, C., Manchester.	Weatherall, T., Manchester.
Mackee, W., Manchester.	Williams, C. H., Manchester.
Mahonie, T., Sheffield.	Whittingham, A. W., Hanley.
Manton, J. N., Wakefield.	Wormald, D. A., Bury.
Marsh, H., Manchester.	Wormald, S., Stockport.
	Wormald, T., Oldham.

The conspicuous absence of several of the old-established practitioners of Manchester was also noticed, among whom may be enumerated the following:—E. Kissack, P. Shaw, G. W. Smith, J. W. Lomax, J. Hooton, F. A. Huet,

C. Farnsworth, A. F. Rodgers, and C. H. Small, and others. We regret that these gentlemen were not induced to come forward, as we are sure their presence would have materially assisted the cause. The Chairman read several letters from absentees, among which we notice the following from Mr. Frank A. Huet, one of the Manchester representatives of the British Dental Association :

120, Oxford Street, Manchester ;
January 28rd, 1880.

To J. S. TURNER, Esq., Chairman.

DEAR SIR,—I beg to acknowledge the receipt of invitation to attend meeting called for the 24th inst., and regret that an engagement deprives me the pleasure of doing so.

If the object for forming a Dental Association for the Midland and North Western Counties be to create a good and generous feeling among the profession, and cause the adoption of a liberal code of professional ethics, the movement will have my sympathy and good wishes for its success. Furthermore, should it be decided to form an Association I trust the rules and regulations will be such as to strengthen the position of the parent Association, "The British Dental Association," as it must be to that body we must look for a constant watching over the interests of the Dental profession. It has an immensity of work before it to do, and without our united and liberal support its efforts will be crippled.

During the last five years I have given much time to the cause of Dental reform, having attended most of the Executive Council of Dental Reform Committee Meetings held in London, also having carefully scrutinised the Dentists' Register, therefore I now feel the time has arrived for me to devote the principal portion of my energy to the requirements of my practice. With kind regards,

Believe me,

Yours faithfully,

FRANK A. HUET.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

ANNUAL GENERAL MEETING, JANUARY 19TH, 1880.

ROBERT HALL WOODHOUSE, Esq., M.R.C.S., L.D.S. Eng.,
President, in the Chair.

THE minutes of the preceding meeting were read and confirmed.

Mr. A. F. BAUDEY was unanimously elected a member of the Society.

The Treasurer's report for 1879 was read by Mr. J. H. McCall, and unanimously accepted.

The Council's report was read by Mr. F. N. Pedley, and unanimously accepted.

It was proposed by the PRESIDENT, and unanimously agreed to, that the best thanks of the Society should be given to—

Charles James Fox, Esq., for presents of the 'British Journal of Dental Science,' each successive issue, to the Society, and of reprint of the Society's proceedings to each member.

W. C. Storer Bennett, Esq., for a present of microscopic objects.

C. S. Tomes, Esq., and Ashley Gibbings, Esq., for examining the papers and awarding the Society's prize of £3 3s. for 1878.

This prize was awarded to Mr. D. S. Hepburn for his paper on "Nervous Affections dependent on Dental causes."

The following list of office-bearers for 1880 was then submitted to the meeting, and approved of throughout :

President.—R. H. Woodhouse, Esq., M.R.C.S., L.D.S. Eng.

Vice-Presidents.—C. J. Noble, Esq., L.D.S. Eng.; H. Dewes Esq., L.D.S. Eng.

Treasurer.—W. A. Maggs, Esq., L.D.S. Eng.

Secretaries.—F. N. Pedley; J. B. Magor, L.D.S. Eng.

Council.—(Senior) C. D. Davis; G. D. Curnock; R. G. Bradshaw; C. Robbins, and Rees Price. (Junior) C. B. Mason; H. Matthews; J. S. Amooore; R. B. Turner.

Messrs. Wonfor and A. A. Matthews were proposed as auditors for the accounts for 1879.

Mr. ROBINSON showed (per Mr. Price) a model of a mouth containing two supernumerary teeth in the palate.

Mr. W. MATTHEWS showed the model of an upper jaw, in which the left upper lateral incisor and a supernumerary tooth were united.

The PRESIDENT mentioned a case in which the canine tooth was double rooted.

Mr. MARCUS DAVIS showed some very curious ancient extracting instruments.

Mr. MARCUS DAVIS, in consideration of the considerable balance in favour of the Society, as shown by the Treasurer's report, proposed a plan for its, at least partial, disposal, which he considered would increase the usefulness of the Society.

After some discussion the matter was referred to the next Council meeting.

Mr. DAVIS then proposed Mr. R. D. Ashby for election as a member of the Society.

The PRESIDENT then called on Mr. G. D. Curnock for his paper on "Certain Forms of Necrosis of the Jaw."*

In the discussion which ensued the President, and Messrs. Marcus Davies, Maggs, Amoores, Pedley, Howarth, W. Matthews, and Magor took part.

Mr. CURNOCK replied.

The PRESIDENT.—Gentlemen, as this evening is the first of our meetings in 1880 I must congratulate you on commencing another year, and may it in every sense be a happy and prosperous one to you all; and our Society I have also to congratulate on attaining another birthday.

The report of our Secretaries, Mr. Magor and Mr. Pedley, both of whom, for a time, at all events, we have the good fortune to retain in office, will have brought the condition of the Society before you in a clear and comprehensive manner, and, in fact, leaves but little for me to say, except to personally thank them for their great assistance in carrying on the working of the Society. Without their aid I should, indeed, feel like a body naturally possessing a pair of wings, but which was stripped of those means of volition.

My term of office ought to cease with the commencement of this next session, but your Council, as my election to the post of your President did not take place till last April, have done me the high honour of inviting me to remain for another year. It would be false modesty on my part did I appear unwilling to do so, for I too keenly appreciate the pleasure of being in your midst.

The number of members in this Society must naturally be influenced by the entries at the hospital; these during the past year have been rather small, no doubt owing to the transitive condition of our profession and the temptations afforded by examining bodies whose regulations are not quite so stringent as the College of Surgeons in Lincoln's Inn Fields, and for whose examinations this hospital affords the chief trysting place.

It appears, with some, to possess a diploma is the chief object, and not first to gain the knowledge of which that diploma is simply the acknowledgment.

The character of the papers read during the past year indicate much care on the part of the authors, and if possessing a fault it has been that of being, if anything, too exhaustive, and thus leaving so little for controversy that we

* See page 97.

have not been able sufficiently to gratify ourselves by picking them to pieces.

Our best thanks are due to Mr. Newton for his paper on "Materia Medica," to Mr. Jones for his contribution on "Dental Irregularities," for the subject of "Caries" treated by Mr. H. Davis, to M. Marcus Davis for his paper on "Hæmorrhage," also to Mr. C. Robins for bringing before us "Notes on Dental Mechanics," and to Mr. C. D. Davis for his paper with the "Third Molar" as its subject. Our list is completed by Mr. Robinson with "Notes on Dental Surgery."

It would, I think, be difficult, in fact, I may venture to say impossible, to select a year in which more has been done to bring our profession so prominently before the world as during the past, for in it some tangible proof has been given to the public at large that we *are* a profession, and not simply a body of craftsmen.

How high that profession will stand depends entirely on the individual character of those men who constitute it, and therefore the more confidently do I hail with hope its future.

The publication of the 'Dental Register' does not altogether endow with a keen sense of pride those who have spent many years in the preliminary training for their future, when placed alongside men who have almost by stealth crept into the Dental ranks. Such, however, only the more tends to show how important it was to commence a system of registration. We must often stoop to conquer, and a beginning has been made, and I think no one ought to deny that it is a very good beginning. Time, that impartial eliminator, will, more effectually than can be done by any other means, remove those whose advantages have been less, and replace them by others reaping the facility for learning that are now placed before men qualifying as Dental surgeons.

Practising as such we certainly have not the fulness of responsibility devolving on the pure surgeon. For my own part, I would willingly forego a portion of the honour and glory "consequent on having the lives of our fellow-creatures more fully in our power," and, at the same time, be relieved of the immense responsibility that must devolve on the surgeon, binding him down in a way that makes it extremely difficult to get an often much needed rest from his sphere of labour. In our branch, when a man is practising alone, this is often difficult enough, but still only in a modified sense, compared to where capital operations have been performed, as in general surgical practice.

The Dental student's career is by no means a path of roses; both mentally and physically the strain upon his powers is

very considerable. May you all, gentlemen, during the present year have health and strength to pursue your varied studies, and by laying the foundation of a prosperous and useful future in your profession, and in which, though oftentimes scattered, may we, like ships upon the storm-tossed ocean, now and again get a glimpse of one another, and even think with pleasure of this institution as the port from whence we sailed on a voyage of discovery in the cause of Dental science.

The meeting terminated with a hearty vote of thanks to Mr. Curnock for his carefully prepared paper.

ODONTO-CHIRURGICAL SOCIETY.

THE fourth meeting of the session will be held in the Dental Hospital, 30, Chambers Street, Edinburgh, on the evening of Thursday, the 12th February, at half-past seven o'clock. W. Campbell, Esq., L.D.S., President, in the chair.

The following gentleman has been proposed for membership by Mr. C. Matthew, L.D.S., seconded by Mr. A. Wilson, L.D.S.:—Mr. Edwin Alfred Cormack, Edinburgh.

The following gentlemen will be balloted for as members:—Messrs. James Macintosh and Richard Cobden Macintosh, Edinburgh.

Discussion on “Irregularities and their Treatment.”

Members are requested to bring cases of irregularities and the appliances used to the meeting.

Signed, ANDREW WILSON, *Hon. Sec.*

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

EXAMINATION FOR DENTAL DIPLOMA.

(Two hours allowed.)

[One question to be answered in each of the first two sections, and two questions in the third section.]

Chemistry.

1. Given a solution of the ferrous sulphate of iron, how would you throw down a ferrous oxide?
2. What is an alloy, and how does it differ from an amalgam?

Anatomy and Physiology.

1. Write a short description of the superior maxillary bone.
2. What are the sources of the carbonic acid thrown off by the lungs?

8. Describe the act of sneezing, naming the excitor and motor nerves.

Dental Anatomy and Physiology.

1. Describe the minute structure of enamel; also its developmental progress from the earliest embryonic change to completion.

2. What is meant by the term "calcification?" and state how it takes place in the calcified tissues of a tooth respectively.

3. Describe the anatomical limits of the crown, neck, and root of a tooth.

Surgery.

1. Give the causes, symptoms, and treatment of a dislocation of the lower jaw.

2. Of cancrum oris give the causes, treatment, and prognosis.

Medicine and Materia Medica.

1. Give the symptoms, diagnosis, and treatment of alveolar abscess.

2. What preparations of arsenic, and of silver, are most frequently used in Dentistry? With what objects, in what doses, and with what precautions should they be employed?

Dental Surgery and Pathology.

1. What means would you employ to arrest hæmorrhage after tooth extraction, supposing the outer alveolar-plate to be fractured?

2. Describe two forms of irregularity of the permanent teeth, giving the causes and treatment of each.

3. Mention the source, composition, principal situations, and treatment of salivary calculus.

We are indebted to the Secretary of the Faculty of Physicians and Surgeons of Glasgow for the following:

At the quarterly examination of the Faculty of Physicians and Surgeons of Glasgow, held on 20th and 21st January, the following gentlemen were admitted Licentiates in Dental Surgery:

George Crocker, Manchester.

William Howard Gray, Glasgow.

John Masters, Manchester.

Joseph John Musgrave, Liverpool.

William Taylor, Glasgow.

Miscellanea.

WHERE TO DRAW THE LINE.

THERE has been much unnecessary difficulty made with respect to the registration of those who are possibly not entitled. In my opinion all the registration in the world is a matter of little importance. It cannot give the skill or education required to become a successful Dentist and it is better to err on the liberal side than run the risk of doing injustice. Strictly speaking, I am not entitled to registration although I was three years pupil with a surgeon, three years with a Dentist, and have been seventeen years in practice. To exclude me would be a gross injustice, never contemplated by the Act; yet, if the act were to be literally enforced, I should be excluded as not being in practice either as a *Dentist only*, or in conjunction with pharmacy. Whether the gentleman and universal genius, whose advertisement I append, is entitled to registration I leave to the judgment of the profession, but surely to exclude such a burning and a shining light would be a loss to a learned profession which it could hardly survive. I may add that I cut this splendid work of art out of a periodical bearing the date of a few weeks ago, and it is therefore apparently not a relic of the middle ages.

—THOS. FLETCHER.

“ROGER GILES, Imperceptible Penetrator, Surgin, Paroch Clarke, &c., &c., Romford, Essex, hinforms Ladis and Gentlemen that he cuts their teeth and draws corns without waiten a moment. Blisturs on the lowest turms, and fysicks at a penny a peace. Sells godfathers cordial and strap-ile, and undertakes to keep any Ladis nales by the year, and so on. Young Ladis and Gentlemen tort the heart of ridein, and the gramer language in the natest manner, also grate Kare takein to himprove there morals and spelling, sarm singing and whisseling. Teaches the jewsharp, and instructs young Ladis on the gar-tar, and plays the ho-boy. Shotish, poker, and all other ruls tort at home and abroad. Perfumery in all its branches. Sells all sorts of stashionary, barth bricks, and all other sorts of sweetmeats, including bees wax, postage stamps, and lusifers; likewise tatures, roobub, sossages, and other garden stuffs; also fruits, such as hard-bake, inguns, toothpicks, ile and tin ware, and other eatables. Sarve, treacle, winegar, and all other hardware. Further in particular, he has laid in a stock of tripe, china, epsom salts,

lollipops, and other pickles, such as oysters, apples, and table beer, also silks, satins and hearthstones, and all kinds of kimistry, including waxdolls, razors, dutch cloks, and grid-irons, and new laid eggs evry day by me Roger Giles. P.S. —I lectures on joggrefy."

At the last quarterly meeting of the governors of the Foundling Hospital, on December 31st, 1879, "A. J. Woodhouse, Esq., was elected a governor and guardian of this Corporation in consideration of his charitable services for the last thirty years as Honorary Dentist of the Hospital."

Dr. Julius Pollock and Mr. Luther Holden (the President of the College of Surgeons) are the Honorary Physician and Honorary Surgeon to the Foundling, and are also governors of the institution.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

THE PORTRAITS OF PAST PRESIDENTS OF THE ODONTOLOGICAL SOCIETY.

To the Editor of the 'British Journal of Dental Science.'

DEAR SIR,—Your article upon the likeness of the late Arnold Rogers, contained in the number of the 'Transactions of the Odontological Society' for December, calls for some explanation on my part. Although you are incorrect in stating that I originated the series of portraits, of which this is the third, upon me has simply developed the responsibility of carrying out the wishes of several of our members, and more particularly those of one of our late presidents, who presented a sum of money to commence this series, his liberality being seconded by Mr. Thomas A. Rogers, who has defrayed all the expenses connected with the Woodbury type of his father, so that up to the present moment, including the likeness of Mr. Harrison, now ready for delivery, the scheme has not infringed upon the funds of the Society. But it must be understood that, although the possession of a good photograph *assists* in the production of a good Woodbury type, unless the artist has the negative, and unless the negative has been taken with a view to the

production of a Woodbury type, the result may yet be a failure. What is required to obtain the best results is only obtainable where the original is alive and willing to sit for a likeness.

Allusion has been made to the photographic album presented by Mr. Edwin Saunders to the Odontological Society, and I have to acknowledge that without this album I should have feared to promise what I have assiduously tried to carry out. Before proceeding with any of these works I have, however, consulted the members of the past president's family, and from them tried to obtain the most reliable likeness of Mr. Cartwright, our first president. This was an enlargement from an ordinary carte de visit in this very album, and it had to be made up entirely by hand. Mr. John Parkinson's Woodbury type was also from a photograph in the same book. I found also a good picture of the late Arnold Rogers, but it was considered a bad likeness; another had to be substituted, which, although a good likeness, was a bad photograph, and had to be heightened by hand also. I question whether any photograph can be made to carry "the courteous, kindly expression" of the original. The very best photographs taken expressly for the Woodbury type can hardly be said to do more than limn the features; the animation, the expression, the fleeting look which gives vitality to the face, is seldom there. We must, however, be thankful that such mementos of those who worked amongst us can be so readily obtained.

I have been frequently asked why we do not copy the oil portraits that decorate the walls of our Society's apartments. My answer is simply that oil paintings photograph very badly, and the copies would have to be worked up by hand at a great expense before a Woodbury type could be taken; and even then they would have all the imperfections of the originals without any of their merits. I quite agree with you in the remarks you make about the interest that attaches to keeping up the Odontological Society's album, and any portraits forwarded to me shall be carefully entered, those already in the book being in a perfect state of preservation, but if we are to have good Woodbury types of those presidents who are still amongst us photographs must be taken expressly suitable to that process.

Yours very truly,
FELIX WEISS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I beg to acknowledge the kindly tone of your article respecting the portraits of my late father in the 'Transactions of the Odontological Society.' In justice, however, both to

Mr. Weiss and Mr. Fry (the manager of the Autotype Company), I must say that the failure of the portrait in likeness is not owing to any fault of theirs; on the contrary, they were both good enough to take a great deal of trouble in the matter, and for which I feel greatly indebted to them. Unfortunately, the photographs of my father have faded very much, and I can quite understand the difficulty, or perhaps impossibility, of getting a satisfactory result from them. Strangely enough, however, the present portrait brings out the worn look, only too familiar to his intimate friends, which my father had when suffering from illness, but which is not apparent in the photograph.

I must apologise for thus occupying your space, but I am anxious that no reproach should rest upon either of the gentlemen who gave up so much valuable time in the hope of securing a favorable result. I am, &c.,

THOMAS ARNOLD ROGERS.

London.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Our attention has been drawn to a communication in your last number from Mr. T. Abraham Rogers, in which he is good enough to recommend "Old File" to send his Dental alloy cuttings and filings to us. He has, however, rather understated the charge, which, for refining scrap and platinising surface of plate, would be one shilling per pound.

It would, perhaps, save disappointment if you could correct this error in your next issue. We are, &c.,

R. BUCKLAND & SON.

11, Hop Gardens, St. Martin's Lane, W.C.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

To the Editor of the 'British Journal of Dental Science.'

SIR,—We have much pleasure in conveying to you, in accordance with a resolution unanimously carried at the annual meeting, held on Monday, January 19th, the best thanks of the Society for your kindness in again, as in former years, presenting to each member a copy of the Society's 'Transactions,' and also to the Society two copies of the 'British Journal of Dental Science' every month.

We are, &c.,

J. BERNARD MAGOR, } *Hon. Secs.*
F. NEWLAND PEDLEY, }

To the Editor of the 'British Journal of Dental Science.'

SIR,—I shall be glad if you can allow me a small space in your Journal to answer your correspondent "Economy," who wishes to be informed of some method of using the overplus of amalgam stopping.

I have for some time adopted the following, viz. by heating the required amount in a teaspoon over a spirit-lamp until it is soft, then adding a little mercury. Mix the compound well with a small pestle and squeeze out the excess of mercury, when it will be ready for use. The cavity of the tooth must be quite prepared for the immediate insertion of the filling, as it will be found to set in a very few minutes.

I have seen some fillings lately which were inserted about nine months ago. Their appearance was perfectly satisfactory, there being no signs of contraction; in fact, I am so pleased with the result that I now mix the amalgam some hours before use into small blocks, and prepare it for filling by the above method, similar to the old SULIVAN's cement.

I am, &c.,

T. BODECKER, L.D.S. Eng.

Upper Norwood, S.E.

PROFESSIONAL CHARGES.

To the Editor of the 'British Journal of Dental Science.'

SIR,—As a proof of the desirability of greater uniformity, or at least reasonableness, in professional charges, let me mention a case in point which came under my notice only very recently. I was consulted by a lady residing at a distance respecting the "possibility," as she put it, of adapting a set that should combine the qualities of utility and ornament to her mouth, which she had been told was a very difficult one to fit—the "difficulty," I would observe, lying chiefly in the fact that the lower jaw to which the piece was to be fitted was considerably underhung and free of any teeth by which to steady it. The difficulty, with the aid of a little practical common sense, I need hardly say, was very soon surmounted, and the patient sent on her way rejoicing. But what struck me as most peculiar, not to say unaccountable, from the patient's standpoint, was the wide difference in the charges made for sets she had had previously from three different Dentists in the same town. For the first she had paid six guineas, for the second two guineas, and for the third twelve guineas! each for the same identical case, but agreeing only in the fact that they were uniformly unsuccessful. Now, I do not believe it is either possible or desirable to lay down any hard-and-fast scale, and rigidly adhere to it,

but I do say that a range so wide as the above is on the face of it absurd, and calculated to shake public confidence in professional integrity.

Yours, &c.,

FAIR PLAY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In the kind letter of Mr. C. W. Dunn, which you published in your last issue, there is a remark I most cordially agree with viz. "If, in the difficulties which beset us all, we would only ask the aid of one another more than is done, a great advantage would be gained." Every one will acknowledge the truth of this, but I think if there were more of the spontaneous giving of "hints" and "little facts worth knowing" even a greater advantage would be gained in improved good feeling among us all.

As practice is better than precept, I will give one little hint that has saved me a lot of time and patience. It is this :

To clean your trays from composition let them boil in a strong solution of soda and water for ten or fifteen minutes, then clean and dry them with a cloth. The soda destroys the composition, so as much as is convenient should be removed first; the remainder wipes off without any trouble. The trays may afterwards be polished, if desired, with a mixture of pumice and whiting and water.

This is not original, and may not be new to all, but I venture to send it you in the hope some one may find it useful.

Yours, &c.,

I. EMERSON RICHARDSON.

10, London Street, London Road, Derby.

A STURDY DENTAL BEGGAR.

To the Editor of the 'British Journal of Dental Science.'

SIR,—A few weeks ago I had a call from a young man, who was pretty well dressed in Oxford hat and light tweed suit, about 5 ft. 8 in. in height, thick set, with light moustache and hair, about 27 years of age, and rather a quiet manner; wanted a job by the week or day, failing which a shilling or two to help him on his way, failing which he had some trays and instruments to sell, with which his pockets were lined. He said he had the offer of 25s. a week in several places in Edinburgh and Glasgow, but would not accept such a low wage. My opinion is that such as he deserves to starve, so I gave him nothing, as I do not believe in fostering idleness. He gave me a call on his return journey, and said he had been told that I would require a hand, which was a falsehood. I cannot say he was dishonest as I was quickly

in the room after him. I found he had been making inquiries about me at publichouses.

I am, &c., VERBUM SAT SAPIENTI.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The following amusing extract is from the Diary kept by His Majesty the Shah of Persia during his travels in 1878:

"Monsieur Hybennet, the Dentist, arrived to-day at Paris from Sweden. Monsieur Chrétien, also a Dentist, who was known to me through having on my former voyage amused himself with my teeth, came some days ago with Doctor Tholozan. Hybennet, at Teheran, had filled a hollow tooth of my left upper jaw, but the filling had become loose, and Hybennet could not get it out; but when Chrétien had worked at it for some days (*sic*) it finally came out. I was very glad, and am going to have the tooth filled anew."

I am, &c., WALTER H. COFFIN.

Junior Athenæum Club, Piccadilly, W.

To the Editor of the 'British Journal of Dental Science.'

SIR,—As in your last issue you published a circular calling a *private* meeting of Dentists at Manchester, it is only fair that you should also publish the following circular, which will show you that all are not in accord with the promoters of the meeting. As this circular has been very widely circulated, and pretty well talked about, the heading "*private and confidential*" is a mere farce. Yours, &c.,

ANOTHER S., L.D.S.

Private and confidential.

Manchester, January 23, 1880.

DEAR SIR,—The Dental meeting that is to take place at the Queen's Hotel on Saturday, January 24th, at three o'clock, seems to be an organised secret scheme for the purpose of forming what is to be known as "The Midland and North-Western Counties Dental Association." An association of this kind should be a representative association for the entire Dental community, instead of which, it seems, it is to be restricted to a few (with Mr. Campion as their President); so that the honour arising therefrom will be confined to those who are organising the movement. None are to be allowed to become members who do not hold the Dental licentiate degree, and yet it is to be considered as a representative Dental association for this district. Are we quietly to submit to this when we are Dentists, and acknowledged to be such by the highest authority in the land, viz. an Act of Parliament? Let me urge you to attend the meeting to protect your own interests and privileges, and out-vote any such unworthy scheme.—Yours faithfully, SINE, L.D.S.

N.B.—Any Dentist who is on the 'Dentists Register' is a qualified Dental practitioner.

[We have received three copies of the above document, so there does not appear to be much privacy about the matter.—Ed.]

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
 2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
 3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
 4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:
 Twelve Months (post free) 14s. 0d.
 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
 5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

Communications received from F. A. Huet, J. Bodecker, L.D.S., J. Bernard Magor, J. N. Pedley, T. Fletcher, W. W. Dykes, J. W. Langmore, M.D., T. Sexton, "Fair Play," R. Buckland, Felix Weiss, T. A. Rogers, J. Emerson Richardson.

BOOKS AND PAPERS RECEIVED.

- 'Medical Enquirer.'
- 'Dental Cosmos.'
- 'Dental Advertiser.'
- 'Missouri Dental Journal.'
- 'Dental Register.'
- 'The Practitioner.'
- 'Johnston's Dental Miscellany.'
- 'Gazette Odontologique.'
- 'Journal of the Chemical Society.'

ERRATA.

- Page 72, lines 19 and 21, for "feeling" *read* "filling."
- Page 72, line 35, *read* "If the gum is protected by the rubber-dam on the tooth."
- Page 75, line 34, instead of "teeming with worms," *read* "turning brown."

British Journal of Dental Science.

No. 290. LONDON, FEBRUARY 15, 1880. VOL. XXIII.

Dental Surgery and Medicine.

ON CERTAIN FORMS OF NECROSIS OF THE JAW.

A paper read before the Students' Society of the Dental Hospital of London, January 19th, 1880.

By G. D. CURNOCK, Esq.

(Continued from page 102.)

Necrosis from mercury.—The use of mercury as a medicine not only frequently causes the loosening and loss of the teeth, but also, in some instances, necrosis of the alveoli. This is not so frequent, however, as is generally supposed. Necrosis is often put down to the use of mercury when there is really another cause. When we remember that it is so generally given in two diseases, viz. syphilis and fever, which of themselves, in many instances, cause necrosis, it is doubtful if the necrotic effects are not due to them rather than to the mercury.

The general effects of mercury upon the system are well known; one is upon the glands, and especially the glands of the mouth, and the condition known as salivation commences. All the symptoms of necrosis, as already described, are present, but many of them in a higher degree. There is also an unpleasant metallic taste, like copper or brass, with inflammation of the gums and mucous membrane. Other signs are periostitis, a whitish line along the edge of the teeth, and a peculiar mercurial fœtor. Unfortunately the disease does not stop here, but goes on to ulceration and gangrene of the soft parts; and, finally, acute periostitis of the bones of the jaw, soon terminating in necrosis and exfoliation, leaving hideous gaps in the face. The ulceration of the soft tissues may extend to the large blood-vessels, giving rise to a fatal hæmorrhage.

Ezanthematous necrosis.—After the time I have devoted to phosphorus disease little need be said except in noticing the peculiar characteristics distinguishing this from other forms of necrosis.

Exanthematous necrosis is very rare, considering the frequency of the occurrence of eruptive fevers, especially in children. Under this head we have smallpox, scarlatina and measles, and without one or the other, or even without being attacked with measles, very few children reach the age of twelve years. Putting this fact side by side with the small number of cases of exanthematous necrosis that are met with we may fairly conclude that the percentage is exceedingly low. The honour of first describing it is due to Mr. Salter, who, in the course of a large and extensive practice as Dental Surgeon at Guy's Hospital, observed but twenty-three or twenty-four cases in nine years.

It usually manifests itself during the early weeks of convalescence from the fever, and, for the reasons already stated, is chiefly a disease of childhood. In extent it is confined, though not without exception, to the alveolar portions of the jaw; it is also symmetrical, affecting both sides of the mouth alike. The most serious aspect of the disease is in that not only are the temporary teeth and adjacent alveoli involved, but often the rudimentary permanent teeth also; so that if the sequestrum, however small, encroaches upon and envelops these latter, there is no hope for their eruption at a later date. The symptoms are essentially those of other forms of necrosis, though they are present in a much milder degree. The breath becomes fetid and offensive, caused by the presence of pus, which is seen to ooze from between the gum and alveolus in the region affected. The gum peels from the bone, thus laying it bare. This state of things progresses slowly until the sequestrum loosens and is removed.

As far as I can make out, this form of necrosis is more often seen in the lower than in the upper jaw, and, as I have already said, it rarely affects more than the alveolar portions; so that after the dead bone has been removed and the parts healed, we should expect to find a state of things somewhat resembling the condition of the jaw as caused by the absorption of the alveoli after the extraction of teeth; and, as in the lower jaw, no repair takes place, the base would form a hard rounded foundation for the reception of artificial substitutes.

One remarkable fact is that the extent and severity of the necrosis are not altogether affected by and do not vary as to the severity or mildness of the fever. In some instances it varies inversely, the most disastrous necrotic results following the mildest febrile attack.

For illustrations of this subject I must refer you to Mr. Salter's work, in which he gives a most complete and interesting account of several cases that have come under his notice.

Syphilitic necrosis.—Very few words will be needed to describe the characteristic symptoms of this form of necrosis. It is chiefly seen in the palatine process of the upper jaw, and is frequently seen and treated, especially in a special hospital like the one with which we are all connected. I have recently had under my care and have made an artificial palate for a patient at this hospital, who has lost a considerable part of the palatine arch and nasal processes, together with the septum and cartilaginous alæ of the nose. In this instance the disease is evidently of a syphilitic origin, though, owing to the patient's extreme deafness, I have not been able to get much of her history. The ulceration of the surrounding tissues and the necrosis of the bone are progressing slowly, and there is no doubt will eventually prove fatal. The extent of the mischief is only apparent upon the artificial palate and nose that the patient wears being removed.

A case of a rather peculiar character is published in which there was necrosis of the alveolar portions of the lower jaw, from the second bicuspid on one side, to the first molar tooth on the other, attributable to syphilitic alveolar periostitis. (Salter.)

Treatment.—In the different forms of necrosis, as already described, the extent and severity of the symptoms are not due to, but yet may be more or less influenced by, the predisposing and exciting causes of the disease. The length of time the person has, in phosphorus disease, been subjected to the fumes, or, in other forms, upon the length of time elapsing between the introduction of the poison and the appearance of the disease, do not affect its severity so much as does the degree of constitutional disturbance and the treatment employed in the prevention of the collection of putrid pus, with other measures for the relief of the inflammation in the periosteum and bone. In exanthematous necrosis this, as I have already shown, is not always the case; the severest constitutional symptoms are sometimes followed by the mildest necrosis, but in the other three forms it is invariably the rule.

The most disastrous aspect of jaw necrosis is the havoc it makes with the face; and when we remember the important part the maxilla plays, especially the superior, in its outline and contour, we can only too vividly recognise its importance, and study to make ourselves competent to do all that surgery and art can suggest to prevent its occurrence, or when it has occurred to do all we can to arrest it.

As Dentists we are enabled to do a great deal towards restoring the natural appearance of the face and the functions

of the maxillæ when the teeth *only* are affected and lost from disease; when, however, the maxillæ are but partially destroyed either by accident or necrosis, we are all but helpless in attempting to restore by artificial means either the contour of the face or the use of the jaws. Hence the extreme importance of arresting the disease before necrosis commences.

Unfortunately, owing to the comparative mildness and short duration of the early symptoms, the true nature of the disease is not discovered in many cases until the necrosis has made some headway. If happily it is noticed in this first stage of acute periostitis, there is a chance of arresting it by the use of immediate and active measures.

The first point to be attended to when the disease is established is the removal of the exciting cause. Thus, in necrosis from syphilis, treatment for the syphilis must be contemporary with the treatment for necrosis. In phosphorus disease the patient must be removed from all influence of its fumes. When mercury is the cause, iodide of potassium should be given to remove it from the system. All loose and irritating teeth should be extracted, and this should be done with great care and caution, lest the dead bone be brought away with the tooth before it is really ready. Moreover, extraction should not be resorted to without due consideration or the recollection that the teeth may possibly be retained in the mouth after the exfoliation of the dead bone, for there have been cases in which the necrosis has only affected one plate of the alveolus, the teeth remaining attached to the other. Mr. Heath mentions a case in which the teeth remained tolerably firm after the loss of the whole of their sockets.

The inflamed gums should be relieved by free incisions, and arrangements made for the removal of pus that may have collected. The mouth should be kept clean by the use of disinfectant and astringent washes.

Little else can be done than to wait until the sequestrum becomes loose enough for removal. It is unwise to hasten matters by attempting to take away the dead bone before it is sufficiently detached from the surrounding callus; and this for two reasons. First, if it is a case in which repair may be expected to take place the sequestrum allows the new bone to be deposited around it, so maintaining the shape of the jaw. Secondly, in children there is a hope that the germs of the permanent teeth are not affected or contained within the dead portion, in which case any early venture to remove the sequestrum would risk them to injury if it did not destroy them.

The general health, attention to diet, exercise, the use of strengthening medicines, strict regard to the cleanly condition of the parts, must all occupy the time until the dead bone is fit to be removed. This latter is easily done with forceps, and is an operation which needs no description, only ordinary skill and precaution.

The irritation and inflammation, now that the cause is removed, quickly subside. With the exception of the relative amount of damage, which varies according to the chance of repair or not, the patient may be said to be restored to health.

Such is the general outline of treatment for the four forms of necrosis I have touched upon. As circumstances alter cases so occasions may arise in which such treatment could not be entirely carried out; but the necessary shortness of this paper forbids my dwelling upon the subject at any further length. We cannot, of course, be guided by any infallible rule, but must depend upon our knowledge and skill.

Repair.—The best cases of repair after necrosis are seen in the lower jaw after phosphorus disease. An effusion of plastic lymph is deposited between the periosteum and bone, and thus a callus is formed around the dead portion. The latter in due time is removed, and the interior of this ossifying callus becomes filled with granulations. This proceeds until the whole mass is converted into bone. In the upper jaw after phosphorus disease there is no repair whatever. After the exanthemata this order of things is reversed; in the lower no repair takes place, while in the upper there is a development of tough fibrous tissue, which fills up the gap and preserves the contour of the face. This is usually the case in early but not in adult life.

One fact that should have been stated before is that, on the whole, the lower jaw is more liable to necrosis than the upper. This is the case after mercurial and exanthematous necrosis; in syphilis the upper is affected more often than the lower, while in phosphorus disease both jaws suffer equally.

REFRIGERATING SYRINGE.

ENCLOSED is a sketch of a very useful little instrument I have made for the purpose of hardening an impression when in the mouth. The nozzle of the instrument has several small holes perforated in it, so that when in use the water may be ejected over as large a surface as possible, thereby causing the impression to be simultaneously hardened, and

consequently avoiding any unequal shrinking taking place, which might be the case if the stream of water were delivered in a single jet.

The instrument recommends itself, as compared with any other for the same use, not only for its simplicity and effectiveness, but also for its cheapness.

Messrs. Lemale & Co. have undertaken its manufacture, and the one they have forwarded me is made in their well-known style and finish. They are now, I believe, prepared to supply the instrument to the profession. I will only add I have no pecuniary interest in the instrument whatever.—JAS. ROGERS BATE.

Hospital Reports and Case-Book.

MONTHLY REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON.

FROM JANUARY 1ST TO JANUARY 31ST, 1880.

Extractions	Children under 14	476
	Adults	661
	Under Nitrous Oxide	254
Gold Stoppings		62
White Foil ditto		12
Plastic ditto		317
Irregularities of the Teeth treated mechanically		59
Miscellaneous Cases		255
Advice Cases		92
Total		2188

JOHN BERNARD MAGOR,
Dental House Surgeon.

MONTHLY REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM JANUARY 1ST TO JANUARY 31ST, 1880.

Number of Patients attended	982	
Extractions {	Under 14	297
	Adults.....	381
	Under Nitrous Oxide	67
Gold Stoppings	45	
Sheets of Gold used, independent of Pellets.....	70	
Other Stoppings	212	
Advice and Scaling	91	
Irregularities of Teeth	12	
Miscellaneous.....	26	
Total operations		1131

WILLOUGHBY G. WEISS,
House Surgeon.

British Journal of Dental Science.

LONDON, FEBRUARY 15, 1880.

THE very able and interesting valedictory address delivered by Mr. Saunders on his retirement from his second period of Presidency opens up for consideration certain questions which we have long wished to bring before the notice of our readers, but which we have refrained from entering upon so long as only one or two Dental societies existed, as by remarking upon some of those we had in view we might have appeared to be commenting upon individuals, rather than upon general principles, which, as we said in our last issue, it is our especial aim to avoid. But now that societies are springing up all around us, it seems that the time has arrived when we may freely offer certain points for the consideration of our readers, any one of whom may, at some future time, be called upon to undertake the onerous duties of the presidential office.

In doing so we fear we shall run counter, to some extent, to the views expressed by our last, able, and amiable President of the Odontological Society. But we must plead in excuse that his own example as a quiet but firm ruler is one of the best arguments in favour of the principles we advocate; and the fact that the rule of the last President has been conducted according to the ideas we are about to express makes it another reason why this is a fitting time to propound them, as we shall not thereby run any risk of appearing to comment upon the individual rather than upon the office.

The first point which occurs to us for consideration is whether the President should hold office for one year or two; the solution of this question must depend very much upon a proper understanding of the constitution of the society and the duties of the President.

Now, first, as to the constitution: it appears to us that it assimilates far more closely to our British constitution than to any republican form of government. The Members are the people—the constituencies. The Commons we may consider as represented by the young fresh members of the council, eager for the fray, teeming with new notions, new projects, apt to think that their seniors (the Lords) are utterly effete, and only holding their position in virtue of their wealth, their experience, and their long years of labour in the lower house as young men; for though in our fanciful division of the council both houses sit together, yet an old habitué of that assembly will, we are sure, recall to mind that the elder heads (or Lords) congregate mostly at the upper end, whilst the Commons, the younger men, chiefly congregate towards the lower end of the council table. The secretaries acting in unison, may be considered as the Prime Minister, and contrasting the life of nations, which may be counted by hundreds of years, with the life of societies, few of which have attained the age of one hundred years, then we should not be far out in looking upon the President as the King.

Doubtless, learned politicians who have studied government and constitutions more deeply than we have, will find many flaws in the picture we have drawn above, but it will serve our purpose, which is to endeavour to show that the President of the Odontological Society is not a despotic monarch; nor is he, as is too often the case in a republic, the slave of the mob. According to our view of the question, he is a constitutional sovereign, dependent upon his advisers—the Secretaries—and his parliament of lords and commons, in the Council, his duty being to hold the balance of power, and endeavour to conciliate all parties by kindly firmness, so that the machinery of government may run smoothly, and he may be able when his end has come, to transmit his little kingdom to his successor, if not improved sometimes through the want of skilful advisers, yet unimpaired in prosperity and unity, through his own quiet efforts for the general good.

In our late President we have had a very good example of the kind of ruler we have endeavoured to pourtray; assisted, as he testifies himself, by able secretaries and an energetic

parliament he has transmitted his little kingdom to his successor, not only in a state of peace, but of prosperity.

But when we proceed to consider what are the duties of the President, we find we shall have to differ from the views indicated by Mr. Saunders, although, as we said before, he has himself most ably fulfilled them more in accordance with our ideas than with his own, as now apparently expressed.

Our previous sketch of what we conceived to be the constitution of the Society tends to show that, whether the King dies or the President retires, the Government continues in much the same way as before, but Mr. Saunders's remarks seem to indicate that the President has more personal influence over the affairs of the Society than he really has or certainly should have. Mr. Saunders speaks of the rule of annual election having been "adopted in view of the advancing years and failing powers of earlier Presidents,"—but we question whether the Society was ever more vigorous, united, and socially happy than it was under its first more elderly rulers, who were content to consider that they held their position not to endeavour to originate new laws themselves, but steadfastly to enforce the existing laws during their term of office; and if new laws were proposed by the Council, or advised by energetic secretaries, so to rule, that the debates thereon were kept within the bounds of moderation and discretion, the President taking no part therein, or showing any partisanship one way or another.

In looking back over the past history of the Society, our readers cannot fail to see for themselves that under such rulers the Society prospered and flourished, and under none more so than under the rule of Mr. Saunders; but when we come to the reigns of Presidents with certain pet theories, which they took advantage of their position to endeavour to enforce, disunion reigned in the Council and dissatisfaction among the members, and the seeds were sown for that disruption which subsequently took place; the Society lost its prestige as a guide to the Dental body, and in giving up its political course it did not gain in scientific repute, but lost both by giving cause for the foundation of one society, which, although aiming at high scientific position, does not hesitate

to interfere in political matters; and now again has given rise to yet another association, which, although formed for professedly political and detective purposes, condescends to tolerate the idea of the reading of papers at its annual gathering.

Such are some of the results of the policy of Presidents who use their office to carry out their own views, instead of simply striving to maintain the honour and integrity of the Society, as handed down to them by their predecessors, as Mr. Saunders has done, but with a little codicil attached to his will, if we may so term his valedictory address, which will, we fear, if carried out, lead to further trouble. Although he has not actually advised that future Presidents should adopt a course different to that which he has taken, who by his kindly courteous rule has considerably strengthened and revived the Society, yet in the first part of his address there is a tone which would lead his successors to infer that they would be justified in carrying out their own views during their reign of office rather than in expending their energies upon the quiet guidance of the younger and more turbulent spirits, which it is always well to find in a council if kept under proper control.

The subject we have entered upon gives rise to so many divergent thoughts, that we fear we must have severely tried our readers' patience if they have followed us so far; but the sum and moral of what we have written is—that whatever a man's theories or schemes may be as to the proper sphere of action or conduct of the affairs of the Society, his year of office, should he ever be elected President, is not the time to endeavour to advance them, either directly or indirectly; there is no man more likely to follow in the footsteps of our late excellent President, and maintain the power and prosperity of the Society than our present ruler, Mr. Woodhouse; and therefore, as we began by saying there could be no more suitable time than now for the expression of our views, as though we are fortunate now, a time may come when a younger and more restless spirit will occupy the chair; and when it does, we trust he will endeavour to curb himself and put in practice the principles we have advocated.

Our remarks so far have referred chiefly to the conduct of the President in Council, but there is another matter on which we wish to remark, and that is as to the conduct of the discussion in the Society. It too often happens that either from diffidence on the part of the younger members, or a kindly reticence on the part of the elders, the debate flags, so the Chairman, with good intent, delivers his own views upon the matter under consideration, and, warming with his subject, proceeds forthwith to deliver an oration, which, however excellent, it is no part of his business to give at that time; indeed, it has happened that a good part of the evening has been occupied in listening to the observations from the Chairman, rather than in addressing him and the meeting. Now, this inconvenience, which we have often heard pretty sharply commented upon, would be obviated if the President would take the trouble to make himself acquainted with the subjects of the various communications and papers to be read at the next meeting, and arrange beforehand with such members as he knows to be most conversant with the subject to be discussed, to take the lead or encourage a flagging debate, not by too lengthy remarks, but by such observations as would bring out the younger, and, we are proud to say, the now well-cultured minds of the juniors. This, of course, is also the duty of the Chairman, but it comes with a better grace from the members; and we know that this plan of previously arranging for a well-conducted discussion has been successfully carried out in some former years.

There was also another plan suggested, and, we think (but cannot recal for certain), carried into effect for a short time, and that was the publication and circulation among the members of a slight synopsis of the paper to be read on the next occasion; this would often bring members to the meeting prepared to speak, who would otherwise have stayed away or been silent. We hope to see this plan adopted again, not only in the Odontological Society, but in other similar institutions.

We have now reached the utmost limit of our space, so cannot at present enter upon the question of the two years' Presidency, but we hope to do so on a future occasion.

Literary Notices and Selections.

WHAT WAS THE CAUSE OF THE DEATH OF GEO. A. GARDNER?

[THE statement that Mr. Gardner, of Brooklyn, N. Y., died from the application of arsenic to a tooth has created much sensation in America and even in England. We have watched the American Dental journals with interest for some instructive notice of the case, but nothing conclusive has appeared until the following excellent summary of the case in the 'Dental Register,' by William A. Pease, of Drayton, Ohio. We reprint it with pleasure, as we know that many of our readers are much interested in the matter.—ED. 'B. J. D. S.']

I noticed the statement of the death of Mr. Geo. A. Gardner, of Brooklyn, N. Y., at the time the statement appeared in the papers, the comments of interviewers and the interviewed upon it, some of whom were professors in medical colleges, and they were so unsatisfactory and incomplete, so lacking in thoroughness and professional comity, that I awaited the appearance of the Dental journals with some interest, hoping that their notice of the unfortunate occurrence might be so broad and comprehensive as to leave little more to be desired. They are now before me, and I still feel that something more remains to be said; that they have not sufficiently analysed the subject; shown the incompleteness of the diagnosis, if diagnosis there were; the inadequacy of the cause to the effect; and, more than all, the want of professional courtesy that could saddle such a charge as that upon a kindred profession on so poorly defined grounds. They have not vindicated the professional standing as they should, so that medical men shall pause and weigh well their words, before they cast the imputation of carelessness, to say nothing of incompetency, upon a member of their profession; but this can hardly be expected from a profession, a considerable proportion of whose members are not respectful to one another, but who bandy epithets backwards and forwards between themselves, like a shuttle-cock, and when summoned before juries as experts, by their want of a clear conception of their subject are the tools and the amusement of the lawyers, the muddlers of the jury, and the despair of

the judge. Charity must step in here in regard to the statement of Dr. Guy, and perhaps it ought, to some extent, and give him the benefit of the excuse of the boy about to be punished, "that he did not go to do it," and very probably he did not to the full extent. It was, perhaps, an afterthought—a convenient excuse to get himself well out of a case that had surprised him by terminating much more seriously than he expected. With a certain class of physicians post-mortem inventions and subterfuges have to be employed to account for unlooked-for results. But his hands should be very clean, and his record very clear, who would incriminate another and cast a blight upon the practice, if not upon the lives of two hitherto irreproachable practitioners, and lead a distinguished family to believe that it has lost a member by inadvertence or a questionable use of remedies by others than himself. This subject assumes greater and graver proportions the more it is looked at. A man is brought suddenly into notoriety, who seems to be bewildered by it—thrown off from his balance—and in his dazed effort to render himself less unenviably conspicuous he seeks to throw it upon others. Nay, more, he would cause, or he has caused, a doubt in the public mind as to the competency of a numerous and honorable profession, his own peers in general and professional education and ability, in the treatment of a certain disease with the appropriate remedy. That disease, toothache, is not seldom, it is general, common, and it has to be treated by hundreds of practitioners for thousands of patients every day, and *arsenic* is the only efficient, practical, and almost painless remedy for it. The use of it is venerable with age, sanctioned by high and almost universal authority—a great public want, and it is destined to go down through the ages as a boon to the human race—the best pain-killer for the most intolerable suffering (pulpitis) humanity is heir to; and it is safe, it has no history of deaths from its use, as have opium, chloroform, and many other remedies that are prescribed by physicians, qualified and unqualified, every day, and that humanity must have. It may be abused, it may be used unnecessarily; science may finally prove that for a certain class of cases it is not indicated, but it can never be supplanted in the numerous cases where it is indicated, and Dentists must be the persons to use it, and they must see to it that no unnecessary odium is attached to their use of it. It is not a heroic remedy in any sense in which it is used in Dental practice, and there have, hitherto, been found no idiosyncrasies that contra-indicate it. If a certain class of cases of exposed pulp can be treated, capped, and the nerve survive, as it seems now probable in a moderate degree, it

eliminates that class from the need of arsenic. But why are we discussing the use of arsenic in this case? There is no proof that it was used; nothing but the assertion of a man who has got himself into trouble, unenviable notoriety, and like a drowning man is catching at a straw. On the contrary, there is the emphatic denial of both of the Dentists who treated the patient before Dr. Guy saw him that arsenic was used, and they are both competent and credible witnesses, certainly more competent than Dr. Guy in the absence of a post mortem and the actual presence of the drug in the system. Conjecture will not do, and unsupported assertion is in bad taste, unavailable for a man who has a strong personal reason for using it, when it is contradicted by men who have not the same weighty reasons for denial, supported as they are by the history of the case, so far as we have it, and the concurrent, general practice of Dentists. Prof. Taft has sufficiently discussed the improbability of arsenical poisoning, the impossibility of so small an amount as is used by Dentists to produce so disastrous results, the want of evidence that Dr. Guy treated for arsenical poisoning, and the omission to state in the certificate of death that it was due to it.

Dr. Guy says: "I did not see Mr. Gardner until the 15th of September, four days after he was attacked. The poison had then been actually absorbed." Dr. Waters, of Boston, says: "That he did not use arsenic in Mr. Gardner's tooth, but simply a solution of carbolic acid." Dr. Marvin, of Brooklyn, says: "I found the tooth temporarily filled, removed the temporary filling, made an application of creosote, hoping thereby to give him relief from pain until he could return to his Dentist, which I recommended him to do." This was their treatment, and to every Dental mind in the world it would show that arsenic was not used. Dr. W. further says, *he removed a gold filling, a capping having been placed over the nerve when it was filled, and proceeded to treat for alveolar abscess.* Can anything be clearer than that? Arsenic is used to destroy nerves, not to save them. The Dentist who filled the tooth with gold was laboriously and conscientiously trying to save the nerve and avoid the use of arsenic. He was carrying out the latest theory, that the nerves can be capped and saved, and this is one to the many exceptions to that theory. Whether he did it *secundem artem* or not, according to the latest theories of the nerve-cappers, is unknown. Whether he rightly estimated the amount and location of the exposure, the age and temperament that will bear it [he certainly tried according to the best lights and abilities that he had, and as another evidence of his conscientiousness he filled the tooth with gold],

whether he malleted it in and thus killed the nerve by concussion is unknown ; but we have one case recorded of death occurring primarily from nerve-capping, and by the blundering treatment of a physician afterwards. Whether the pulp would have died if a soft filling had been used, even amalgam, is problematical, but the chances of its survival would have been more numerous.

Let us study the case and make it a text for some observations on similar ones, strengthened by close observation in every-day practice and an accumulating experience. The case is very clear ; nothing more could be desired. I refer to it now, when Dr. Waters took charge of it, removed the gold filling, and found a decomposing pulp. It is said he applied *traction* to it ; what that is is a mystery. If it means that he partially luxated the tooth, and then left it to remain, created a wound difficult to heal, in addition to the irritation and possible inflammation that was commencing at the end of the roots, there was abundant cause for serious trouble. It is a theory of practice that could hardly have emanated from Harvard University, that was looking down upon him with its calm and venerable eyes. But he says he did apply "a solution of carbolic acid." Let us see what the reason was for that.

In filling the tooth an effort was made to save the life of the pulp by capping it, inflammation had supervened, and the plug had been removed. The first indication was to open freely the pulp chamber and remove the partially decomposing pulp, for I assume that the pulp could not have been wholly decomposed, and the immediate result would have been to remove the pressure on the periosteum at the end of the root, give it rest, and without any other treatment than the placing of a pledget of cotton loosely in the cavity, to prevent the accumulation of food, the periosteal irritation would have subsided. Whether he did that or not is uncertain. Dr. Marvin says : "I found it temporarily filled, removed the temporary filling, made an application of creosote," &c. That temporary filling was the worst thing that could have been done under the circumstances if it was a tight one, as it probably was, even assuming that he had thoroughly removed the pulp, for the antecedent pressure of gas upon the periosteum might have been sufficient and long continued to have created a local subinflammation, and there might have been a septic element in his blood, seeking a place to focalise, sufficient to have caused a continuance of the inflammation and the exudation of fluid into the pulp canal to putrefy and generate a gas that could not escape. The temporary filling was placed there in expectancy—it

was a sign of doubt, and from all that can be gathered from Dr. Marvin's statement and treatment the tooth was not in a very bad condition, much less threatening, when he saw it. But valuable time had been lost; the irritation had been too long continued, and the information is not before me as to whether he placed a tight capping over the creosote. What the use of creosote was, and what curative properties it was supposed to have, is one of the unsolved problems in this case. If it be assumed that at that time there was effusion, and ulceration is more improbable, the difficulty is increased. Nothing can be plainer than that the effusion should be allowed to escape to relieve tension, and we cannot suppose that there was a double track through the pulp canal, the one for the egress of the effusion and the other for the ingress of the creosote. The thing to be done was to get rid of the effusion, and it ought to have been aided by all the means in his power. The disease must have far progressed, and created a sac of considerable dimensions, to give it force sufficient to drive or elevate the effusion through the canal and overcome the gravity of the creosote, aided by the cap above it. What was wanted was to keep the effusion in the most liquid form, and remove all impediments to its escape. The effect of creosote would be to coagulate it and make it more difficult to escape, and, if the canal was small, the coagulum might entirely block it up. And if, by any means, as the weight and pressure of the superincumbent cap, the creosote were driven through the foramen, it would destroy the periosteum or the sac, and create such a lesion that after the lapse of four days, when Dr. Guy first saw it, it might well make him think that gangrene was present, but it would not frighten a Dentist who is familiar with such conditions, and he would probably have summarily dealt with it by extracting the tooth; when the cause of the inflammation being removed, the depletion from the bleeding, which might have been increased by the injection of warm water, would have caused the rapid subsidence of the inflammation, and the case would not have obtained public notoriety, and a life would have been saved.

The mistake of Dr. Guy consisted clearly in taking a case that did not belong to him, that he did not understand, and that he was not prepared to treat. Had he relegated it to a Dentist, he would have escaped an unenviable notoriety.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

ORDINARY MONTHLY MEETING, FEBRUARY 2ND, 1880.

ALFRED J. WOODHOUSE, Esq., President, in the Chair.

The PRESIDENT delivered his inaugural address.

Having thanked the members for the honour they had conferred upon him, Mr. Woodhouse went on to say that, as he was the first President who had assumed office since their specialty had become a close profession, he thought he could not occupy the time better than by reviewing shortly its past history, tracing the steps by which it had reached its present position, and contrasting its past with its present status.

The practice of Dentistry as a specialty was of comparatively modern origin. Even so recently as 1842, when Mr. Woodhouse was articled, the contrast with the present state of things was most remarkable. The profession was then well established, but each practitioner was isolated; there was no journal, no professional society, no ready means of exchanging ideas, and thus each man was thrown almost entirely on his own resources. Even the professional literature of forty years ago was meagre indeed compared with what it is now. The only means of obtaining a knowledge of professional work was by being articled to a Dentist, and the acquisition of general surgical knowledge, being entirely voluntary, was, of course, neglected by the majority. In 1841 Mr. Waite published a pamphlet, in which he advocated the establishment of a compulsory curriculum of study for young men entering the profession, and that they should be subjected to an examination at the Royal College of Surgeons before being permitted to practise their profession. This appeal, however, met with no response.

In 1842 Mr. Jas. Robinson endeavoured, but unsuccessfully, to establish a Dental society.

In 1843 Sir Robert Peel's Government brought in a Bill by which the charter of the Royal College of Surgeons would have been materially altered. This was considered a good opportunity for getting the Dental profession legally recognised. Accordingly some of the leading Dental practitioners waited upon the President of the Royal College of Surgeons, and, after some difficulty, obtained his consent to

the insertion of clauses having this object in view. But the labour spent in draughting these clauses was wasted, for the Bill did not pass.

For a few years after this Dental reform slumbered. But in August, 1855, the 'Lancet' published a letter from Mr. Rymer, in which he described the unsatisfactory condition of the Dental profession, and suggested that a Dental college should be established in London similar to those which were already in existence in America, and that the Royal College of Surgeons should appoint a board of examiners to examine candidates in Dental surgery. As the result of this letter a well-attended meeting of Dentists was held at the London Tavern, and a committee was appointed to endeavour to further these objects. It was also decided that a society should be formed for purposes of mutual intercourse and improvement, and thus arose the College of Dentists, which had an independent existence until 1862, when it became merged in the Odontological Society.

The meeting above referred to took place on September 22nd, 1856, and in November of the same year the Odontological Society originated in a similar meeting of gentlemen who were working independently with the same object in view. The only difference in opinion was as to the *means* by which these objects would best be attained, for, while the promoters of the College of Dentists wished to establish an independent teaching and examining body, the originators of the Odontological Society thought it would be better to take advantage of the existing machinery and prestige of the Royal College of Surgeons. The Council of the Society at once entered into negotiations with the authorities at Lincoln's Inn Fields, and eventually a clause was drawn up and inserted in the Medical Act of 1858, which gave the Royal College of Surgeons power to hold special examinations in Dental surgery, and to grant certificates to candidates who might prove themselves proficient. Meanwhile the College of Dentists had not been idle. It had established a School of Dental Science and the National Dental Hospital, but its endeavours to obtain a charter were unsuccessful, and thus its great aim, the power of granting diplomas, could not be attained. The passing of the Medical Act in 1858, and the consequent institution, in 1860, of the L.D.S. examination by the Royal College of Surgeons, greatly lessened their chance of obtaining the much-coveted powers, and at last, in 1862, this project was abandoned, and negotiations were entered into for an amalgamation of the College of Dentists with the Odontological Society. These were in time brought to a successful termination, and on May 4th, 1863, 111

members of the College of Dentists became members of the Odontological Society of Great Britain.

A good deal had now been done, but more remained. It was now possible for a young Dentist to procure a thorough professional education, but it was still open to all and sundry, the dishonest and the illiterate, to enter the profession without question. To complete the work it was necessary that all should be compelled to enter the profession only after having passed through a course of study, and after their knowledge had been tested by examination, and that these conditions should be enforced and guarded by a system of compulsory registration.

"On the 31st of August, 1875, a meeting was held in Manchester by some of those gentlemen who felt strongly in the matter, and the result was that a committee was formed entitled the 'Dental Reform Committee,' which set itself the task of getting an act passed which should compel all Dentists already in practice to be registered, and, after a certain period, that all who registered should hold a diploma as licentiates in Dental Surgery."* Many meetings of this committee took place, at first under the presidency of Mr. Cartwright, and afterwards of Mr. Tomes, and the plan was gradually matured. What followed would be fresh in the memory of those present. A Bill was drawn up and introduced into Parliament by Sir Philip Egerton, Sir John Lubbock, and Mr. Gregory. Unfortunately the Duke of Richmond's Medical Bill was introduced at the same time, and this, amongst other things, proposed to deal with the grievances of our profession. But thanks chiefly to the unwearied exertions and vigilance of Messrs. Tomes and Turner, and under circumstances which it would take too long to enumerate, it came to pass at last that our Bill became an Act of Parliament whilst the Government Bill was abandoned. As the result of the Dentists Act of 1878' no one can practice our specialty who is not registered; if a Dentist is convicted of crime or disgraceful conduct his name can be struck off the Register, and in future no one will be able to enter our profession who has not passed through a prescribed curriculum. Such is now our legal status, but laws without means to enforce them are dead letters, and this would be the case with the Dentists Act, if there was no recognised body

* As a simple historical fact the President should have stated that a scheme, the basis of the present Act, was first mooted in a paper read before the Odontological Society in 1875. The matter was reopened in the pages of the 'British Journal of Dental Science,' and a meeting, called at Manchester on August 31st, 1875, for a very different purpose, was induced by the Editor of this Journal to adopt his proposal to form a committee, the action of which should be based on the principles of REGISTRATION AND COMPULSORY EDUCATION.

to enforce its provisions. Accordingly, at a general meeting of the profession, held at Willis's Rooms on March 3rd, 1879, it was resolved to form an association for the purpose of seeing that the provisions of the Act were properly carried out. It will be the business of the British Dental Association to investigate the grounds on which registration was effected, and to obtain such evidence as shall enable the sub-committee of the General Medical Council to remove the names of those who have no right to be on the Register.

The rest of Mr. Woodhouse's address was devoted to reflections on the present state and prospects of the Society. Although, as Mr. Saunders had stated, its field of work had been reaped to some extent, much remained to be done. The last thirty years had witnessed quite a revolution in our general practice, but perfection had not yet been reached, and he trusted that this year would see further progress made in it. Much also still remained to be done in collateral subjects. Histology and comparative anatomy were still fruitful fields for inquiry, and a description of various scientific novelties of interest to the profession might profitably occupy some of their time during the session.

In conclusion, Mr. Woodhouse called upon his audience to bear in mind that they were now members of a corporate body, and to act in a manner worthy of the position to which the profession had attained. It would be for them to see that the goodly tree which had passed through so many storms and had needed such careful culture should bear really good fruit.

The PRESIDENT then announced that the following gentlemen had been duly nominated, and would be balloted for at a subsequent meeting, viz. Messrs. Geo. J. Hongo, 15, Allez Street, St. Peter Port, Guernsey; Maurice Hongo, 36, Belmont Road, St. Helier's, Jersey; Hugh William Hughes, 10, Cavendish Place, Cavendish Square, London; and Lawrence Read, 18, Hanover Street, Hanover Square, London.

The following candidates were then balloted for, and elected Members of the Society, viz. Messrs. W. St. George Elliott, D.D.S., 39, Upper Brook Street; A. Baxter Visick, 41, Brook Street; W. H. Thompson, D.D.S., 41, Brook Street; and Morton A. Smale, M.R.C.S., Edgeware Road, London; Herbert Coate, D.D.S., of Cheltenham; and Martin Henry, of Folkestone.

Mr. R. H. Woodhouse showed a sequestrum, which had been removed at the Dental Hospital from the lower jaw of a woman *æt.* 30. It extended from beneath the left second molar to the ramus of the jaw, involving the sockets of the second and third molars and a portion of the inferior dental canal. The patient had suffered for about two years from

great pain, swelling, and increasing fixity of the jaw, but no cause for the disease could be assigned. Having first ascertained that the sequestrum was loose, the patient was put under the influence of nitrous oxide gas and ether. Mr. Coleman then forced open the jaw, extracted the second molar, and then removed the dead bone with a pair of hawk's-bill stump forceps. The case progressed very favorably, and when last seen, six weeks after the operation, the patient could move the jaw freely and masticate with comfort. The lower teeth on the left side were dead up to the first bicuspid, but were otherwise sound, and there was complete cutaneous insensibility over a patch, about the size of a shilling, where the skin of the chin is supplied by the terminal branches of the inferior dental nerve.

Mr. W. E. HARDING, of Shrewsbury, related the following curious case:—A gentleman brought his son, 11 years of age, for advice; the boy's right upper central incisor projected above the level of the other teeth, and was loose in its socket. He said he had never had any blow or fall, and could give no reason for the tooth having become loose. It presented, also, the peculiar dark opaque appearance indicative of death of the pulp, and, on a close examination, Mr. Harding found a minute aperture on the lingual surface, close to the neck, communicating directly with the pulp cavity. On again questioning the boy he said that there had formerly been a little "knob" on the tooth in this situation, but one day he bit it off. A good deal of pain followed, and the tooth soon became tender and loose. It was evident, then, that a small node had formed on the tooth, and that a horn of pulp had projected into it. The little excrescence having been broken off, this prolongation of the pulp was exposed, inflammation of the whole pulp followed, and then the death of the tooth.

Mr. STORER BENNETT thought that Mr. Harding was scarcely justified in applying the term "node" to this growth. It was really an odontome at a very early stage of its existence. We were in the habit of thinking of odontomes as solid tumours, and no doubt as usually met with they were so, but their mode of development did not differ essentially from that of the normal parts of the tooth. In this case there had been an unusual prolongation of the formative dental pulp; on this a cap of enamel and dentine in due time appeared, and eventually the whole outgrowth would have become solid had not its existence been accidentally cut short, with the results which Mr. Harding had described.

The PRESIDENT said he had never met with a similar case.

The little outgrowths were common enough, but it was very rare to find them containing pulp. He thought that the case should teach them not to be too ready to take off these projections in the case of young subjects lest the pulp should be interfered with, and death of the tooth result.

Mr. WEISS said that some years ago he met with a case somewhat resembling this. A young gentleman came to him complaining of pain in an upper central incisor. The tooth was not diseased, but on close inspection a minute aperture could be seen, through which, as he afterwards found, a fine horsehair could be passed into the pulp cavity. Since the patient had had no symptoms until a few days before he came to Mr. Weiss, it was evident that the opening had been closed in some way, possibly by a thin covering of enamel, which had been lost by wear; but there had been no projecting growth, as in Mr. Harding's case. Mr. Weiss advised the patient to have the opening enlarged and the pulp removed, but he went off to another practitioner, who extracted the tooth, which was then brought back to Mr. Weiss for examination.

Mr. DAVID HEPBURN related a case of fracture of the left upper central incisor, caused by a fall on the ice. The remarkable feature of the case was that, though the fracture was complete and not in the least impacted, and though the patient did not apply to Mr. Hepburn till the day after the accident occurred, the parts were still in such exact apposition that Mr. Hepburn could not tell which was the broken tooth until the patient pointed it out. The line of fracture was very oblique from before backwards, and the parts were held in position by the nerve tissue and a few shreds of periosteum. The patient, a young gentleman, æt. 16, had fastened a small wooden prop between the teeth during the night, which had further protected the parts from injury.

Mr. BROWNE-MASON, of Exeter, said that one of his patients had recently met with a similar accident, but in a much more extraordinary way. He had been playing billiards with a friend, and, having finished the game, they were amusing themselves with a little practice. Mr. Browne-Mason's patient was in the act of aiming at the red ball, when the other player from the same side of the table also made a stroke at it, but, missing its aim, the ball rebounded from the cushion on to the point of his friend's cue, and, running up this, struck the gentleman on the mouth and broke off two thirds of his right upper central. The pulp was exposed and had to be destroyed; the stump was then pivoted in the ordinary way.

Mr. J. S. TURNER showed a curiously deformed lower

canine. The root had a double curve, so that the whole tooth resembled a partially straightened S. Mr. Turner said he had examined several thousand teeth, but had never before met with a similar specimen. The tooth was dead, and, although not loose, looked as if it might be easily extracted, but in this Mr. Turner and the patient were greatly mistaken, for the operation proved a tough one for both parties.

Mr. OAKLEY COLES then read a somewhat long but very original and important paper "On the Classification of Deformities of the Upper Jaw," of which the following is an abstract :

Beyond those well-marked deformities of the upper jaw, known as congenital cleft palate and fissured alveolus, we have others of a more or less severe form that are of sufficient importance to attract notice on account of the defective articulation they may be associated with, or that may excite interest from the endeavours that have been made from time to time to translate their pathological signification.

The question has been invested with an unnecessary amount of obscurity from the variety of terms that have been in use to express very often the same class of deformity ; thus, at the present time there would be no difficulty in finding in the works dealing with this and allied subjects such names as—(a) V-shaped maxillæ, (b) contracted arch, (c) saddle-shaped palate, &c.

2. It seems evident that a more precise and scientific classification is necessary.

3. It would be but little to the purpose were any one to propose a simply arbitrary set of terms to supersede those that are now in use. They would be open to the objections urged against existing names, and would, if merely arbitrary, still lack that degree of scientific accuracy that is essential to the successful prosecution of a purely morphological investigation.

The chief obstacle to the attainment of the necessary end may be said to have been due to the absence of any exact standard of an absolutely perfect form of jaw.

To say that a well-developed dental arch will correspond in outline with one or other of the conic sections is only to remove the difficulty one step further off and render a complex subject still more difficult of description.

4. My investigations as to the correlation between the palate and cranium, commencing some ten years ago, compelled me to take some record of the dental arch in such a manner that it could be easily recorded and tabulated.

After a series of measurements and experiments that I need not now describe, I arrived at the conclusion that the triangle was the best geometrical figure for the object that I had in view, as it gave in the simplest and most diagrammatic form two at least of the measurements that were required, namely, the length and breadth of the dental arch.

5. Desiring to form a triangle that should be applicable to the largest number of cases, whether edentulous or not, and capable of use with approximate accuracy to all races alike, I decided to form the base of the triangle by an imaginary line drawn from the centre of the distal surface of the second molar on each side, as near to the level of the alveolus as the third molar (if present) would admit of.

The absence of the molars on one side of the mouth did not of necessity render measurement impossible, as the centre of the distal surface corresponds very nearly with the centre of the alveolar ridge, which in this region is generally well marked.

The base being thus obtained, the remainder of the triangle was produced by lines drawn from the point of contact of the mesial surfaces of the two central incisor teeth to the extremities of the base line already referred to. This incisive point still keeps the angles of the triangle upon the central line of the alveolar ridge, so that in this respect again we measure from a point of least variation.

We have thus procured a triangle, giving at the molars the breadth of the jaw, and by a line drawn from the apex of the triangle to the centre of the base line the length of the jaw, exclusive, of course, of the space occupied by the third molars.

The interbicuspid measurement has also been deemed a very important one, and most writers on the deformities of the palate have referred to it.

The interbicuspid measurement is taken at the line of the neck of the second bicuspid with the margin of the alveolus on either side of the jaw, this position being chosen so as to avoid the inaccuracies likely to occur in the event of a largely-developed bicuspid crown.

At a distance from the base, corresponding with the distance of the second bicuspids from the distal surface of the second molar, this interbicuspid line was allowed to traverse the triangle. These lines and distances were obtained with an ordinary pair of compasses, and measured off by means of a millimètre rule. Beyond this, the height of the palate was taken, together with the total length (in the skull), and also its transverse and antero-posterior curves.

6. In the method that I have thus endeavoured to describe

there are certain sources of inaccuracy and errors of observation that may be readily seen, and to some extent allowed for.

Thus, deformity of the palate, arising from premature ossification of the intermaxillary or palato-maxillary sutures, would, of necessity, invalidate the tracings and measurements of the palate, whilst abnormally large crowns to the teeth, or extreme irregularity in the crowns, would quite as obviously render comparatively valueless the data on which the triangle was constructed. Still, if these sources of error be fully recognised and carefully allowed for, an approximately accurate diagram may be obtained.

7. My observations were in the first instance directed solely with the object of ascertaining certain normal measurements, and the first set of these dimensions were taken by means of strips of lead, accurately moulded to the contour of the palate in different positions, the results being immediately outlined on cardboard; the measurements were then taken off by means of compasses and a millimètre rule. It will be desirable here to give three dimensions of the palate, viz. the width, taken from the inner margin of the alveolar process opposite to the second bicuspid; the height, taken from the centre of the line representing the above width to the centre of the palatal arch; and the length, taken horizontally from between the central incisor sockets to a vertical line let fall from the posterior nasal spine. The skulls examined fall into two series: first, thirty-four adult skulls of European origin; and, secondly, thirty-two adult skulls of mixed races.* In the first series the average length was 49 millimètres (maximum 58 m., minimum 40 m.); the average width was 35 m. (maximum 42 m., minimum 31 m.); the average height was 9 m. (maximum 15 m., minimum 5.5 m.). In the second series the average length was 54 m. (maximum 65 m., minimum 43 m.); the average width 35 m. (maximum 40 m., minimum 29 m.); the average height was 12 m. (maximum 18 m., minimum 6 m.).

Beyond the dimensions just enumerated, I obtained with the compasses the dental triangle to which I have already directed attention, the first set of observations having special reference to the palate, and the second to the alveolar and dental arches.

Two main facts are deducible from the data obtained in the second instance: first, that the best type of well-developed English jaw will give an equilateral triangle as the result of measurements in the way I have described; secondly, that the interbicuspid line will fall upon the tri-

* On the different size of the jaws in civilised and uncivilised races, see Darwin, 'Descent of Man,' vol. i, p. 118; Herbert Spencer, 'Principles of Biology,' vol. i, p. 445.

angle some five tenths in the perpendicular from the base line, and that the extremities of the interbicuspid line will pass well beyond the boundary of the triangle on either side.

8. Having obtained in an English jaw what appeared to be a reliable standard figure, my first impulse naturally was to apply the same method of measurement to the cases of deformities of the upper jaw that were so frequently being brought under my notice.

9. The results were so marked and special in their characteristics that there seemed little question that the difficulty of classifying the various forms submitted to the test of the triangle was in a fair way of being removed. Continued investigations confirmed my first impressions, and those investigations I have endeavoured to reduce to a practical issue by making them the basis of a nomenclature that I now submit to the opinion of the profession.

Taking typical cases of strongly-marked deformity, I noticed that the nature of the triangle and the position of the interbicuspid line in its relation to the triangle had a definite and intelligible meaning, and further, that I could transfer to a diagram records of a case that should be capable of a precise interpretation.

Not taking into account an almost endless variety of deformities that possess some slight modifications as compared with the more pronounced types, it yet seemed quite possible to classify a sufficient number according to rules that were capable of a fairly general application.

10. Thus to one or other of the divisions, long, short, large, small, prominent premaxillary region, deficient premaxillary region, V-shaped arch, I found it possible to assign each case.

These were scarcely satisfactory terms to use, however, and I have therefore adopted a set of words already known in cranial morphology, modifying their terminations only, in order to avoid a certain hybrid phrase that might otherwise have been created.

Following the order of classes already given, we have then the dolichoid, the brachoid, the macroid, the microid, the premaxillary prognathous, the premaxillary upognathous jaw, and the true V-shaped arch of congenital idiocy, to which I have assigned the name lambdoid.

In order to render the subject complete, I propose now to give first the name (with its derivation) and definition of each class, and then pass on to a concise description of a typical case.

1. DOLICHOID JAW ($\Delta\sigma\lambda\iota\chi\delta\varsigma$, *long*).

Definition.—A term applied to an upper jaw in which,

with an average, or less than average, length from base to apex of triangle, the interbicuspid line will be found resting at its extremities upon the sides of the triangle, thereby showing the degree of parallelism (tending even to bicuspid contraction) of the two sides of the dental arch. The preceding definition of the dolichoid arch will at once show that long and short are but relative terms in relation to this classification; and that, although we may get other varieties possessed of absolute qualities, yet the dolichoid jaw is only long in relation to its width, and not absolutely long in comparison with other jaws. In discussing the qualities of the triangle of the brachoid jaw I shall have to refer to this again, in order that the points of differentiation may be perfectly clear. Looked at from above, the dolichoid jaw presents the outline of an early English or Saxon window, with its circular top and parallel sides. Its special features are as follows:—The small size of the dental arch occupied by the incisors and canines; the straight line (more or less marked) on which the bicuspid and molars are implanted in the jaw, the higher plane of the vertex of the palate, and the well-nigh vertical direction indicated by the two lateral walls of the palate, in continuation of the alveolus of the bicuspid and molars.

2. BRACHOID JAW (*Βραχύς, short*).

Definition.—A term applied to an upper jaw in which, with a less than average length from base to apex of triangle, the interbicuspid line falls upon or within the sides of the triangle, or quite outside of the sides of the triangle. The above definition shows that there are two varieties of short or brachoid jaws. In the one instance there may be a bending-in of the arch in the bicuspid region to such an extent, that, looked at from above, it presents the outline of two italic “f’s” reversed, and almost meeting towards their centre, whilst in the other the bicuspid may be but little within the normal range, or even beyond it. In such a case the brachoid character of the jaw is due to the extreme frontal flattening in the region of the incisors and canines, and in some measure to bulging out of the bicuspid. The palatine surface will present a flattened arch, and occasionally the palatine process of the one upper maxilla will be on somewhat higher plane than the other. Under the classification “brachoid” would be included most of those cases that we now find described as contracted maxillæ.

3. MACROID JAW (*Μακρός, large*).

Definition.—A term applied to an upper jaw in which the

measurements of the arch, though relatively to each other normal, are yet absolutely greater than the average standard, the palate, moreover, being the seat of well-marked deformity. The true macroid jaw is comparatively rare, and is invariably found associated with some other abnormality. Beyond its size, it presents but few points of interest, the palate chiefly claiming attention on account of its extreme vaulting. The dental arch is well formed, and the teeth regular, but not large, as compared with the general dimensions of the mouth. Julia Pastrana was a good illustration of the macroid class. In her case the base of the triangle gives a measurement of 61 m., whilst the interbicuspid lines reach the extraordinary length of 40 m., or 5 m. beyond the normal standard.

4. MICROID JAW (*Μικρὸς, small*).

Definition.—A term applied to an upper jaw in which all the measurements are below the average standard.

It is an ordinary upper dental arch, only very much in miniature, properly proportioned and with fairly developed teeth, the palate deep apparently, but not really. There may be a small amount of lateral contraction, but not sufficient to destroy the symmetry of the arch.

In one case, aged thirty-seven, the base line was only 37 m. as against 61 m. of the macroid, and the interbicuspid line only 22 m. long as against 40 m. of the macroid.

5. INTERMAXILLARY PROGNATHISM (*Πρὸ, before ; Γνάθος, the cheek or jaw*).

Definition.—A term applied to an upper jaw in which, the dental triangle having been taken, the distance from the interbicuspid line to the apex of the triangle is greater than the normal standard, and also greater than the distance from the interbicuspid line to the base of the triangle, to which it should normally be nearly equal. Thus, in a triangle having its vertical line divided decimally, the interbicuspid line falls a little over four tenths from the base, giving six tenths for the distance from the interbicuspid line to the apex of the triangle.

The term prognathous is applied in anthropology to those skulls in which the projection of the upper jaw is excessive, and is accepted as a race characteristic. "All races, all individuals, are prognathous, the difference between them being only in degree; the natives of Europe, notably the Gauls, being least so, and the pure Hottentots reaching the highest maximum of the whole human race."*

* Topinard, 'Anthropology,' p. 282. English ed., 1878.

M. Topinard recognises as true prognathism that which he calls alveolo-sub-nasal, limiting its area "to the portion of the maxilla subjacent to the nasal spine, which corresponds to the palatine arch, and that next to it in which the alveoli are situated."*

Applying the term to the purposes of a pathological classification, I have deemed it wise to limit still more the area to which it shall refer; hence the prefix, intermaxillary prognathism. Still more shall I endeavour to justify the use of this prefix by arguing, further on, that the intermaxillary bone is an important factor in the production of the deformity. Briefly to describe a case; we find an elongated jaw with a small arch in the incisive region, with the molars and bicuspid implanted nearly in a straight line, and but slightly divergent on either side from the central line of the palate. The bicuspid and molars appear but a moderate distance through the alveoli, and the incisors and canines will be found separated from each other by a varying amount of space, according to the age of the patient, the eversion of the teeth in late middle life being increased by mechanical causes operating on their primary displacement.

The alveolar arch will be observed in front as projecting abnormally, and retaining its marginal peculiarities, an important point to notice, as it enables us to diagnose with other symptoms between the prominent teeth of the thumb or tongue-sucker and the case of true congenital intermaxillary prognathism.

It might at first be supposed that the alteration in form was due to great lengthening of the jaw backwards, and projection of the teeth only, and that the prognathism of these cases was apparent rather than real; but exact measurements from the triangle show that a typical case gives a remarkable resemblance between this malformed English jaw and a typically-developed Hottentot's jaw, the interbicuspid line in the abnormal arch falling a little over four tenths from the base line, and in the Hottentot's jaw falling exactly four tenths from the base line, thereby showing not only the similarity between the two, but also indicating the region in which the departure takes place from the abnormal English arch. As the posterior division corresponds, so we find the anterior measurements from the interbicuspid line to the apex of the triangle very nearly the same, that is, nearly six tenths for the intermaxillary prognathism, and fully six tenths for the prognathous Hottentot.

The palatine arch does not call for any special description, as it displays no unusual features.

* Topinard, *op. cit.*, p. 281.

6. INTERMAXILLARY UPOGNATHISM (Υπὸ, *deficient, less than*; Γνάθος, *the cheek or jaw*).

Definition.—A term applied to an upper jaw in which, the dental triangle having been taken, the interbicuspid line will fall far in advance of the normal distance from the base of the triangle, the four incisor teeth being crowded together, and the canines, by reason of the smallness of the anterior section of the arch, kept out of their normal position. The dimensions of the case of upognathism that I have chosen for the purpose of description gives a base line and sides of the triangle, almost identical with that obtained from the prognathous jaw described in the last section.

The upognathous jaw is one in which we find the bicuspid and molars occupying a fairly normal position, but the centrals very close together, and the lateral incisors almost immediately posterior to them, the canines standing outside the arch and in part filling up the gap between the bicuspid and central incisors. The vaulting of the palate is considerable, its lateral walls approaching the vertical, whilst its antero-posterior outline gives an index of the depth of the alveoli and the abruptness of the curve.

In this obtained triangle we find that, whilst in the intermaxillary prognathous jaw we obtained an interbicuspid line falling a little over four tenths from the base line, in the intermaxillary upognathous jaw we have the interbicuspid line falling rather more than six tenths from the base line. Or, putting the case the other way, we have in the prognathous jaw the apex six tenths in advance of the interbicuspid line, whilst in the upognathous jaw we have it only a little less than four tenths, thereby showing the excessive development with interdental spacing in the one, and the diminished development and interdental crowding in the other; whilst the interbicuspid measurement (only 24 m.) shows the contraction of the arch owing to the diminished size of the intermaxillary region.

7. LAMBDOID JAW (Λ , *lambda*).

Definition.—A term applied to an upper jaw in which the outline of the dental arch and the sections of the palate resemble the form of the Greek letter *lambda* and present a wedge-like appearance.

In the six classes of abnormal jaws that I have already described I have included, under a precise name, most of those that have been hitherto referred to under the more general term of V-shaped, but we still have one very pronounced form of abnormality that requires a special de-

scription. If the jaw were looked at upside down the term V-shaped would properly describe it, but looked at in the ordinary way it corresponds in outline with the Greek *lambda*, and hence I propose the adoption of this name: first, as being diagrammatically more appropriate; and, secondly, from its Greek origin offering greater uniformity with the titles of the first six classes enumerated. I have intentionally left the description of the alphoid jaw till the last, as, whilst all the other classes have their parallels in normal jaws, in form if not in degree, the lambdoid jaw is a class alone, without normal parallel, and doubtless the product of profound central lesions during early embryonic life.

The outline it presents I have already mentioned; beyond this we have to note the large size of the teeth, the prominent markings of the mucous membrane, and the diminished interbicuspoid measurement; thus, in a typical case we have a base line of 56 m., a length of 43 m. from base to apex of triangle, and an interbicuspoid measurement of only 28 m., falling within the sides of the triangle, the central and lateral incisors semirotated, and the palate presenting the typical wedge-shaped outline, the vertex being above the normal plane, and the soft palate too short to touch the posterior wall of the pharynx. The lambdoid arch is rarely seen except in connection with low mental development, and especially where the idiot is microcephalic.

Without entering upon the much-vexed question of the proofs of congenital idiocy, it may yet be well to say that such cases rarely, if ever, occur without showing some deformity of the jaw, if sufficiently accurate dental observations be made to ascertain the fact.

I propose now, as briefly as possible, attempting to give an explanation of the origin of those lesions to the enumeration of which I have devoted this paper.

I must confess I am unable to explain at present the origin of the dolichoid and brachoid jaws. It would be easy to say the changes in form are due to premature synostosis; that would doubtless give a well-known name to the process, but it would not at all explain the origin of the process, or why the ossification should take place in one direction rather than another.

The deformity known as *intermaxillary prognathism* is the result of a force operating on the intermaxillary bone, such force originating in the body of the sphenoid, and being transmitted by the intervening nasal septum. (I may at once say that when speaking of *force* I mean a direction of growth in a given line of such energy as to overcome the resistance offered to it by surrounding structures).

The foregoing assertion is based upon the interpretation obtained from the following observed facts:—First, the true case of intermaxillary prognathism will have a long thin nose. Secondly, this long thin nose is not observable during the first dentition, nor is the prognathism, excepting to a very slight degree indeed. Hence we may conclude that the long thin nose and prognathous jaw are capable of intensification by growth and development during early life. Thirdly, it has been shown that the measurements from the interbicuspid line to the incisive angle is greater in the prognathous than in the normal jaw, hence it follows that the change from the normal arch occurs at a point anterior to the second bicuspid, whilst the second bicuspid is known to correspond with the position of the second molars of the milk dentition. Thus it is shown that the prognathism is not of the whole jaw carried forward on a horizontal plane, but is really intermaxillary or alveolo-sub-nasal in its character. Fourthly, it is a simple logical sequence of the process that produces intermaxillary prognathism, carried a step further during embryonic life, that produces double harelip and fissured alveolus. The specimens in the Royal College of Surgeons, and the illustrations in our standard works on surgery, as well as the plates published by Von Ammon and Vrolik, amply prove that in double harelip the intermaxillary bone is carried forward by the vomer and the rest of the nasal septum; and in many cases we know this is removed by the surgeon in operating for harelip, and we obtain afterwards the grooved centre to the alveolus with two canines, one on either side of the termination of the true maxillary process.

Arguing back from these cases of double harelip to premaxillary prognathism, we can come to no other conclusion than that the duration and extent of the force operating upon the intermaxillary bone determines the nature and extent of the deformity that will be produced. As I have shown that intermaxillary prognathism is but a preliminary step in the deterioration of form that will produce in a subsequent generation (subjected to like conditions of propagation) double harelip, so we may assume that the general cranial development will in the two cases bear some relation to each other; and that as we know (on the authority of Hutchinson) that in cleft-palate cases ossification of the sutures is delayed to a period far beyond the usual date, so in cases of intermaxillary prognathism the sutures would not be so much ossified as to oppose any sufficient resistance to the exercise of the force originating in the sphenoid,—a force that I at first asserted was the

cause of the prognathism. From collateral evidence we know that many cases of prognathism are associated with such central lesions as will manifest themselves in the form of idiocy or imbecility; and further, that the general configuration of the face is ape-like, from its diminished facial angle and retreating chin; and we also know that in the apes the intermaxillary suture is not ossified till late in life, nor is the prognathism developed till after the primary dentition. We have it on the authority of Topinard that the skulls of the Merovingian race are the most prognathous of any found in France; and on the authority of French historians that the Merovingian dynasty was so debased in physical and mental development as to be known in their latter days as *les rois fainéants*. It will, therefore, scarcely be straining the argument unduly if we assume that as man by deterioration returns to the type of the higher ape, so, by the like process, he will in his method of development be subjected to similar conditions of growth and ossification. I do not, of course, wish it to be understood that all who have intermaxillary prognathism must of necessity be either idiots or imbeciles; but I desire very distinctly to assert that such a deformity occurring amongst the highly civilised is a distinct mark of deterioration of stock, whilst it is differentiated from the normal prognathism of the Hottentots by the diminished interbicuspide measurement of the highly-bred skull.

Intermaxillary upognathism is not so easily to be accounted for. It occurs in the offspring of apparently the robust; but there will generally be found a scrofulous tendency on one or both sides of the ancestral tree, as indicated by fragile nails, delicate hair, clear complexion, great physical wasting, combined with a constant tendency to disease of the tonsils, general relaxation of the mucous membrane, disease of the joints, and liability to phthisis. The facial angle will be good, and the chin pronounced in character, the lips will rarely be shut, thereby indicating the post-nasal interference with respiration, and the nose will be either symmetrically small or decisively tip-tilted. Looking at the face as a whole, we should say that the nose was too small and the lips were too short, or that the cut of the face was too large for these two features. It really is the nose and mouth that are too small, and as we saw in the prognathous class deformity due to excessive development in this region, so we see in the present case deformity due to deficient development.

As to the primary cause of either the one or the other, we are, I think, completely in the dark. From the sociological

point of view, upognathism is not such a serious matter as prognathism, for I have endeavoured to show that the one indicates a deterioration of stock that is in all probability progressive, whilst the other arises from a robust stock subjected to certain unfavorable influences that may from their nature be sooner or latter eradicated.

The Lamdoid jaw, or V-shaped arch, as it has hitherto been called, seems to combine most of the features of deterioration that I have taken as class distinctions in the other varieties. Thus, the triangle is somewhat below the average from base to apex; the base is beyond the proportionate length; the interbicuspid line falls within the triangle; and the general appearance of the front of the mouth is prognathous. This last condition is not, however, real, but simply apparent, owing to the peculiar arrangement of the teeth in their sockets, and not owing to the general prognathism of the jaw.

Although there is little question that all the other forms of jaw that I have described may be, and probably are, found in connection with congenital idiocy, yet it seems probable that this lambdoid jaw is connected with the most pronounced type of idiocy, namely, the microcephalic.

After carefully examining the works of various writers on the subject of microcephalic idiocy, there seems sufficient evidence to justify the belief that premature ossification of the suture is the rule in the majority of these cases; and we may therefore assume, if we cannot absolutely conclude, that this influence operates powerfully in the production of the dental deformity known as the lambdoid jaw; and this view is held by Virchow, but it is combated by Dr. Langdon Down and Dr. Ireland.

In conclusion, I have to thank Mr. Charles Tomes and Mr. Willoughby Weiss for the assistance they have rendered me in preparing this paper.

At its conclusion Mr. West proposed that the discussion should be adjourned till the next meeting. The 'Transactions' had been received so late that few of the members knew what the paper of the evening would be about, and it was impossible to discuss an elaborate paper like this, bristling with facts and figures, without having previously looked up the subject a little.

Dr. WALKER said that the late distribution of the 'Transactions' was accounted for by the very short interval which had elapsed since the last meeting. He quite agreed that the discussion of Mr. Coles' paper must be adjourned, but as Dr. Lauder Brunton had promised to read a paper at the next meeting, "On Nervous Diseases connected with the Teeth,"

the discussion on which would probably occupy all the available time, he proposed that the discussion of Mr. Coles' paper should be postponed till the April meeting.

Mr. J. S. TURNER seconded this proposition. Mr. Coles' paper was an important contribution towards the study of an important subject. An immense amount of labour and thought had evidently been bestowed upon it, and it would be quite impossible to discuss it satisfactorily without having an opportunity of reading it over at leisure.

The PRESIDENT in putting the motion said that Mr. Coles' treatment of the subject was novel. The paper was a difficult one to follow offhand, and certainly required and deserved careful reading and study.

The motion that the discussion be adjourned till the April meeting was then put and carried, and after the usual vote of thanks the meeting terminated.

LIST OF MEMBERS OF THE ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

WE are so frequently applied to to sign the papers of candidates for admission to this Society by gentlemen with whom we have but little personal acquaintance, that we think it advisable to publish the following alphabetical list for the information of those who may desire to become members; and we would desire to impress upon such gentlemen that their applications are likely to be received with all the more favour if supported by the recommendation of neighbours who are members rather than by the names of London men to whom they are comparatively unknown. We give publicity to this all the more gladly because we earnestly desire to see this good old Society increase and multiply, remembering that it is really the mother of all the good that has since arisen among the Dental body. We are anxious, too, to see it joined by all the young practitioners who are rising so rapidly around us in the provinces, and who owe so much to it, even before they were ever heard of. Have local societies by all means, but let them never forget that they owe their existence in the first place to the Odontological Society of Great Britain.

Agnew, J., Glasgow.
Alabone, A., Isle of Wight.
Amoore, D., Hastings.
Anderson, J., London.
Apperley, E., Stroud.
Arkövy, Dr. T., Hungary.
Arthur, Robert, America.

Ash, G., Dover.
Bacon, Beadell W., Tunbridge Wells.
Baily, G. H., London.
Baker, J. A., Dublin.
Balcomb, Thos., Jersey.
Balkwill, F. H., Plymouth.

- Ballard, C. W., America.
 Barnum, Dr., America.
 Barkley, W., Worcester.
 Barrett, A. W., London.
 Barrett, H. J., London.
 Bartlett, W. P., London.
 Bate, C. S., Plymouth.
 Beale, Lionel S., London.
 Beers, W. G., Canada.
 Bell, R. J., Canterbury.
 Bell, M. L., Canterbury.
 Bell, T., London.
 Bellaby, G. W., Nottingham.
 Bellisario, J., Australia.
 Benham, G. A. C., Leeds.
 Bennett, S., London.
 Betts, Ed. G., London.
 Bevers, H., Oxford.
 Binns, E., Middlesbro'.
 Bloom, M. J., Dublin.
 Bogue, E. A., America.
 Bond, T. E., America.
 Boulger, P. J., Norwich.
 Braine, F. W., London.
 Brand, E. E., Exeter.
 Bridgman, F. G., London.
 Bridgman, W. K., Norwich.
 Bright, C. S., Italy.
 Bromley, C. H., Southampton.
 Brookhouse, R., Manchester.
 Brown, Richard, Tavistock.
 Brownlie, J. R., Glasgow.
 Brunton, G., Leeds.
 Buchanan, G., Glasgow.
 Bull, George Rhind, Stafford.
 Bull, Tollemache J., Brussels.
 Burrige, L. S., Rome.
 Busk, G. London.
 Bygrave, B., Paris.
 Cameron, T. R., Paisley.
 Campbell, Walter, Dundee.
 Campion, H., Manchester.
 Canton, A., London.
 Canton, F., London.
 Carpenter, Dr., Croydon.
 Carteighe, J., Jun., London.
 Cartwright, A., London.
 Cartwright, S., London.
 Cartwright, S. H., London.
 Cattlin, W., London.
 Cattlin, W. A. N., Brighton.
 Clements, Thomas, London.
 Clerk, Smollett W., India.
 Clover, J. T., London.
 Cobb, J. S., Great Yarmouth.
 Cole, J. F., Ipswich.
 Coleman, Alfred, London.
 Coles, Jas. Oakley, London.
 Coles, Stratton J., Plymouth.
 Coles, R. S., Plymouth.
 Cook, Augustus, Eastbourne.
 Cook, C. D., America.
 Corbett, Daniel, Dublin.
 Corbett, J. F., Cork.
 Cormack, A., Edinburgh.
 Cormack, D., London.
 Cox, Edwin, Preston.
 Cronin, Augustus, London.
 Crowther, G. H., Wakefield.
 Cunningham, J. T., Edinburgh.
 Daboll, G. L., America.
 Darin, Charles, France.
 De Lessert, A. A., Aberdeen.
 De Lessert, Charles Grierson, Wolverhampton.
 Dennant, J., Brighton.
 Dentz, S. N., Amsterdam.
 Dickenson, M. de C., St. Leonard's.
 Didsbury, J. M., Paris.
 Doherty, Wm. Izod, Dublin.
 Dunn, Charles W., Florence.
 Dunning, —, America.
 Ebbetts, Frank, London.
 Edgelow, Thomas, London.
 Edwards, J. O., Batavia.
 Egerton, Sir P. G., London.
 Elliott, J. W., London.
 English, T. R. M. Birmingham.
 Enniskillen, Earl of, Ireland.
 Ewhank, Francis, London.
 Evans, Thomas Wm., Paris.
 Fairbank, J., London.

- Field, G. W., London.
Finlayson, M., Leigh.
Finnie, John, Egypt.
Finzi, S. L., London.
Fletcher, John B., London.
Flower, Wm. H., London.
Foran, J. C., Eastbourne.
Forsyth, W. F., London.
Fothergill, A., Darlington.
Fothergill, W., Darlington.
Fothergill, Ed., Newcastle-on-Tyne.
Fox, S. Bevan, Exeter.
Fox, Chas. James, London.
Fox, O., Brighton.
Gaddes, T., London.
Gaine, Charles, Bath.
Gamble, J. G., Stratford-on-Avon.
Garland, T. G. T., Exeter.
Garrett, P. L., Isle of Man.
Gartley, J. A., London.
Ghrimes, S., Maidenhead.
Gibbings, Ashley, London.
Gibbons, S. C., Brighton.
Gill, H. B., London.
Gospel, John R., Liverpool.
Grant, W., Inverness.
Gregson, G., London.
Gurner, J. R., Australia.
Halliday, M. W., London.
Hankins, T., London.
Harding, G. H., London.
Harding, T. H. G., London.
Harding, W. E. Shrewsbury.
Harding, Milward, London.
Harrison, J., Sheffield.
Harwood, Daniel, America.
Hatfield, J. H., London.
Hayward, H. H., London.
Heath, T. W., Richmond.
Hele, W., Carlisle.
Helfrich, R., London.
Henry, G., Hastings.
Henry, W. F., London.
Hepburn, D., London.
Hepburn, David, Edinburgh.
Hepburn, Robert, London.
Hockley, G., London.
Hogue, W., Bournemouth.
Holford, John J., London.
Hooper, Henry J., London.
Hopkinson, R., Manchester.
Hugo, S. G. J., Guernsey.
Hunt, W. A., Yeovil.
Hutchinson, S. J., London.
Huxley, T. H., London.
Ibbetson, Geo. A., London.
Imrie, William, Paris.
Jepson, Alfred, Leamington.
Jewers, F. A., Plymouth.
Jordan, Henry, Australia.
Karran, J., Isle of Man.
Kean, Edward, London.
Keeling, G. R., Epsom.
Keeling, G. R., Jun., Epsom.
Keeling, W. E., Devizes.
Keen, Edward, Cambridge.
Keene, James J., Boulogne-sur-Mer.
Kelly, T. M., Manchester.
Kempton, H. T., London.
King, Joseph, York.
King, C. N., Exeter.
King, H. A., Exeter.
King, Norman, Exeter.
King, R. F. H., Newark.
King, Roff, Shrewsbury.
Kirby, H. T., Leicester.
Kirby, S. Amos, Bedford.
Kölliker, P. A., Switzerland.
Laws, J., Weymouth.
Levason, A. G., Hereford.
Lindsey, J. B., Dover.
Lipscomb, J. M., Kilmar-nock.
Lloyd, F. R., India.
Longhurst, H. B., London.
Longford, J. H., Dublin.
Luke, James, Maidenhead.
Lyddon, George, Reading.
Lyons, I., London.
MacAdam, G. C., Hereford.
MacGregor, M., Edinburgh.

- MacLeod, W. B., Edinburgh.
Macowen, W., Blackburn.
Magor, Martin, Penzance.
Magitot, E., Paris.
Makins, G. H., Walton-on-Thames.
Mallett, G., Newbury.
Mallet, H., Exeter.
Manville, B. C., London.
Margetson, W., Dewsbury.
Margetson, W. E., Dewsbury.
Marsh, Wm., Colchester.
Mason, J. T. Browne, Exeter.
Mason, H. B., Exeter.
Martin, J. H. C., Portsmouth.
Martini, Luigi, Italy.
Matthew, C., Edinburgh.
May, Percy, London.
May, William H., London.
Meara, Alfred, India.
Mearns, R. L., Australia.
Medwin, Aaron Geo., London.
Merson, J., London.
Merson, F., South Molton.
Merson, Wm., Bournemouth.
Mitchell, F. W., London.
Moffatt, Geo. T., America.
Moon, Henry, London.
Moore, Edward, Croydon.
Moore, Robert H., Dublin.
Moore, W. V., Plymouth.
Morley, Henry, Derby.
Mortimer, John E., London.
Moseley, Gillam, Sheffield.
Mummery, J. H., London.
Mummery, John R., London.
Murie, Dr. James, London.
Murphy, J. E., Derby.
Murphy, T., Bolton.
Murray, Fred. W., Dublin.
Newman, W. J., Liverpool.
Nightingale, C. G., Shrewsbury.
Nightingale, D. T., Newcastle-on-Tyne.
Noble, Chas. I., London.
Norman, Robert, Australia.
Normansell, Fred., London.
Northrop, A. L., America.
O'Duffy, J., London.
Orphoot, Peter, Edinburgh.
Owen, Professor R., London.
Paget, Sir J., London.
Palmer, Jas. Edwin, Peterborough.
Palmer, G., Cheltenham.
Parkinson, Ed. P., London.
Parkinson, Geo. W., London.
Parkinson, G. Thomas, Bath.
Parkinson, James, London.
Parks, Wm. J., London.
Parmele, Geo., America.
Parson, T. Cooke, Bristol.
Pasmore, G. F., Exeter.
Payne, G., London.
Payne, A. G., Bournemouth.
Payne, A. G., Southampton.
Petty, F., Reading.
Pierrepoint, E., Manchester.
Piggott, A. S., America.
Pitowsky, A., Barnstaple.
Platt, L. G., Stirling.
Porter, W. P., London.
Porteus, H. W., India.
Pratt, R. J. H., London.
Randell, E. B., London.
Ranger, W. G., London.
Ransome, Robert, London.
Reading, E., Australia.
Reboul, A. P., London.
Redman, J. H., Brighton.
Reid, R., Edinburgh.
Richardson, B. W., London.
Roberts, C. D., London.
Roberts, W. A., Edinburgh.
Roberts, T. A., London.
Robertson, A., Hereford.
Robinson, G., New Zealand.
Rodway, H. B., Torquay.
Rogers, Charles, London.
Rogers, Claude, London.
Rogers, Henry, London.
Rogers, Joseph, London.
Rogers, R., Cheltenham.

- Rogers, S. A., Manchester.
 Rogers, T. A., London.
 Rose, J. E., Liverpool.
 Rymer, S. L., Croydon.
 Salter, S. J. A., London.
 Sanders, J. J. H., Bangor.
 Saunders, Edwin, London.
 Saunders, W., Ramsgate.
 Savory, W. S., London.
 Scott, Fred. J. C., Swansea.
 Sewill, Henry E., London.
 Sharpey, W., London.
 Sheffield, Isaac, London.
 Sheils, W. J., Cork.
 Simmons, J. J., London.
 Smale, H. C., Manchester.
 Smith, Geo. W., Manchester.
 Smith, J. A., London.
 Smith, W. T., London.
 Snape, J., Liverpool.
 South, J. F., Blackheath.
 Steele, J., Croydon.
 Stevens, M., Paris.
 Stewart, R. E., Liverpool.
 Stocken, James, London.
 Stringfield, W., Lowestoft.
 Sutcliffe, James, Bradford.
 Swanson, A. E., London.
 Sylvester, G. I., Worcester.
 Taylor, Adam, India.
 Tellander, Carl, Stockholm.
 Tippet, J. C., Torquay.
 Tod, Ewen M., Brighton.
 Tomes, Chas. S., London.
 Tomes, John, London.
 Trevelyan, Sir C. E., London.
 Truman, Edwin, London.
 Tubbs, C. F., Plymouth.
 Tucker, Joshua, America.
 Turner, J. S., London.
 Underwood, Thos., London.
 Underwood, T. F. K., London.
 Underwood, A. S., London.
 Vanderpant, F. J., Kings-
 ton-on-Thames.
 Vasey, Charles, London.
 Vegas, J. F., Brazil.
 Virgin, H. J., Oxford.
 Walker, Joseph, London.
 Waller, Robt. Bey, Cairo.
 Wallis, Chas. J., Blackheath.
 Wallis, George, London.
 Washbourne, E. N., Taunton.
 Watson, D., Torquay.
 Weaver, G., London.
 Wedl, Karl, Vienna.
 Weiss, Felix, London.
 Wells, J., Berwick-on-Tweed.
 Werner, F., Darmstadt.
 West, C., London.
 West, E. Byatt, London.
 West, W., London.
 Whatford, J. H., Eastbourne.
 Wheeler, J. C., Southsea.
 White, John D., America.
 White, Richard, Norwich.
 White, T. C., London.
 Whittingham, A. W., Hanley,
 Staffordshire.
 Williams, G. S., Bristol.
 Williams, W. C., Leamington.
 Williamson, Wm., Aberdeen.
 Wilson, A., Edinburgh.
 Wilson, G., Hull.
 Wilson, J. A., Bangor.
 Winterbottom, A., London.
 Winterbottom, E. J., London.
 Wood, M. D., Stockton-on-
 Tees.
 Wood, W. R., Brighton.
 Woodburn, W. S., Glasgow.
 Woodburn J. C., Glasgow.
 Woodhouse, A. J., London.
 Woodhouse, R. H., London.
 Woodhouse, W. H., London.
 Woodruff, H. W., Leamington.
 Woods, W. T., India.
 Wormald, D. Amos, Bury,
 Lancashire.
 Wormald, S., Stockport.
 Wormald, T., Oldham.
 Worsley, J., Preston.
 Worster, J., London.
 Zinkgraf, F., Bavaria.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

THE annual meeting of this Association was held on Wednesday, January 28th, when the treasurer's report was received and adopted, showing the Society to be in a highly prosperous and flourishing condition.

The following officers and Council for 1880 were duly elected :

President.—Mr. W. A. N. Cattlin.

Vice-Presidents.—Messrs. J. A. Baker, S. Cartwright, Coleman, Salter, F.R.S., and Dr. Smith, F.R.S. Edin.

Treasurer.—Mr. Edgelow.

Hon. Secretary.—Mr. Craigie.

Council.—Messrs. E. Bartlett, S. H. Cartwright, Fairbank, F. Fox, C. Gaine (Bath), Napier, W. Ranger, and A. Winterbottom.

The first dinner of the Association took place in the evening at the Langham Hotel, S. Cartwright, Esq., in the chair, when over fifty Fellows and their friends were present, amongst whom were the presidents of the Royal College of Physicians and Surgeons, Sir William Gull, Mr. Young, M.P., Dr. Quain, the President of the Medical Society of London, Mr. Ransford, Professor Lister, Mr. Edwin Saunders, Dr. Andrew Clark, and a considerable number of the leading Dentists of London.

In the course of the dinner, and in proposing various toasts, the opinion was expressed by two members of the Medical Council that the Dentists Act requires amendment, especially in respect to the assumption of the title of surgeon by Dentists who are not surgeons, but only Dental licentiates of various colleges.

The Association numbers seventy members, and is in the fourth year of its existence. It may be congratulated upon the vigorous vitality which it exhibits, and the accordance expressed in its views on the subject of Dental legislation by the distinguished company who were assembled to share its hospitality.

EDINBURGH DENTAL HOSPITAL AND SCHOOL.

THE annual meeting of the directors and contributors of this institution was held on Thursday, the 29th January, in the Hospital, 30 Chambers Street, Edinburgh—the Rev. Dr. Sandford presiding.

The honorary secretary, Mr. James Robertson, stated in

his report—the first since the inauguration of the institution—that the teaching staff had been fully organised, and the full curriculum recommended by the Medical Council, in conformity with the Dental Act of 1878, could now be obtained in Edinburgh. Special classes were commenced on the 4th November last, in terms of the prospectus of the School, and had, so far, been well attended. A lease of the premises at 30 Chambers Street had been obtained for fifteen years from Whit Sunday 1879, at the annual rent of £100, subject to certain reductions in favour of the directors, and with a break in their favour at the end of five and ten years. The report of the medical secretary, Dr. Wm. Chisholm, alluded to the great success that had attended the institution since the amalgamation with the Edinburgh Dental Dispensary. There was now a large increase in the number of applicants for assistance and professional advice, and up to the present time no fewer than 4500 patients had received advice and treatment. The use of anæsthetics in difficult and protracted operations was being largely adopted. These operations, with the necessary material, had led to considerable extra expense, but the staff looked confidently to the public to supply those means of assistance to the deserving poor.

The treasurer, Mr. Hepburn, said he produced his report with mingled feelings of satisfaction and disappointment. His satisfaction arose from the fact that, although they had had a considerable outlay in furnishing and instituting the hospital, there still was a fund left in had to begin the current year with; but he was disappointed that the public has not done more to assist an institution which was the means of alleviating so much suffering. The receipts amounted to £369, and upwards of £200 of that sum had been contributed by members of the profession, while their hon. president, Lord Rosebery, had given £60; so that the public had as yet done very little. The expenditure amounted to £292, and there was a balance of about £70 in hand.

The reports were adopted, and the proceeding terminated with the customary votes of thanks.

DENTAL STUDENTS' ASSOCIATION OF GLASGOW, ANDERSON'S COLLEGE.

THE Dental Students of Anderson's College have lately formed a Society with the above designation. The meetings, which are to take place monthly, will be held in one of the rooms of the Dental Hospital.

On January 28th the first meeting of the Society was held, when the President, Mr. J. C. Morison, L.D.S. Eng., gave a short introductory address, and alluded to the success which had attended the opening of the Dental School in Glasgow, as evinced by the formation of such a Society as the students had formed.

On Friday, the 6th February, the members of the Society and a few of those interested in Dental education, to the number of thirty, dined together in the Regent's Hotel. The chair was occupied by Mr. Brownlie, L.D.S. Eng., Hon. President, who was supported by Prof. Buchanan, M.A., M.D., the President of the Society acting as croupier. After the usual loyal and patriotic toasts, those more special to the occasion were duly honoured, viz. "Anderson's College," "The Licentiates in Dental Surgery," "The Dental Students' Society," and "The interests of the Dental Profession." The proceedings were enlivened by music between the speeches, and the kindly feeling of all present seemed to augur well for the prosperity of the Association.

[It is really wonderful to see the prompt energy with which our Glasgow friends have set to work. At the same time we cannot help reflecting that hitherto they have owed their training in professional *esprit de corps* and energy in our London School of Dental Surgery at the Dental Hospital of London, and we feel those institutions may well be proud of their offspring. We shall publish the rules *in extenso* in our next, as there are many points in them worthy of consideration, and, perhaps, imitation.—Ed. 'B. J. D. S.']

Miscellanea.

NEW DENTAL PREPARATIONS.

WE have received from Messrs. Ash and Sons samples of two new Dental preparations, one for application as a local anæsthetic, the other claiming to be a specific for all kinds of neuralgia.

Had these been sent to us by any other than the world-famed House of Ash and Sons we should have declined to notice them, as we are not in favour of giving publicity to medicaments the composition of which are unknown to us. Take, for instance, the O. S. Tooth-block; we refused to

speak in its favour until we were privately made acquainted with its composition ; and, on being informed thereon, we were able confidently to recommend it, not only to our patients, but to the profession generally.

In the case of the two preparations before us, although we do not know their composition, and have not had time to get them analysed, we are content to accept the recommendation of Messrs. Ash and Sons, who never, to our knowledge, ever patronised anything that was not worthy of recommendation. These preparations have reached us so recently that we have as yet had no opportunity of testing them in practice, but they bear with them so many good testimonials that we trust our readers will send for samples and favour us with the results of their experience.

The first that came under our notice is called "Scott's Specific" for Neuralgia, Tic-doloureux, Toothache, &c., and all Affections of the Nerves (rather an extensive range). The gentleman who prepares it states on his label that, being himself a "Dentist," he has proved the efficacy of this specific in his own private practice. We have an obstinate case of neuralgia of the occipital nerve under our notice (though of course not under our care); we will have this specific tried thereon.

The next preparation brought under our notice by the Messrs. Ash is entitled "Mr. Marsh's Local Anæsthetic for Annuling Pain during Extraction of Teeth." This sounds a little more reasonable, as we have had ample experience of the value of a local anæsthetic in the forms of aconite and chloroform. This appears to us to be a combination of ether and camphor. Chloral and camphor, as prepared by Mr. Rew, of Regent Street, is most useful, so we hope to find some good results from this preparation, which we shall also give a careful trial to and report thereon. Mr. Marsh does not state whether he is a Dentist or not on his label, nor does he give his address, but appears thereby to rely upon the merits of his preparation. From this we would infer, we know not how truly, that he is the Mr. Marsh whose name appears in the list of members of the Odontological Society; if so, we would gently remind him that the rules of that society discountenance the sale by its members of *secret* preparations.

THE 'DENTISTS' REGISTER.'

IN a recent number, we printed counsel's opinion upon certain points respecting the rights of registration in the 'Dentists' Register.' The following legal opinion on the question of what, in law, constitutes "a practising," and the

claims of apprentice to be considered in practice, will no doubt exercise a very important influence in determining the right of a certain number of persons to the retention of a place in that Register.

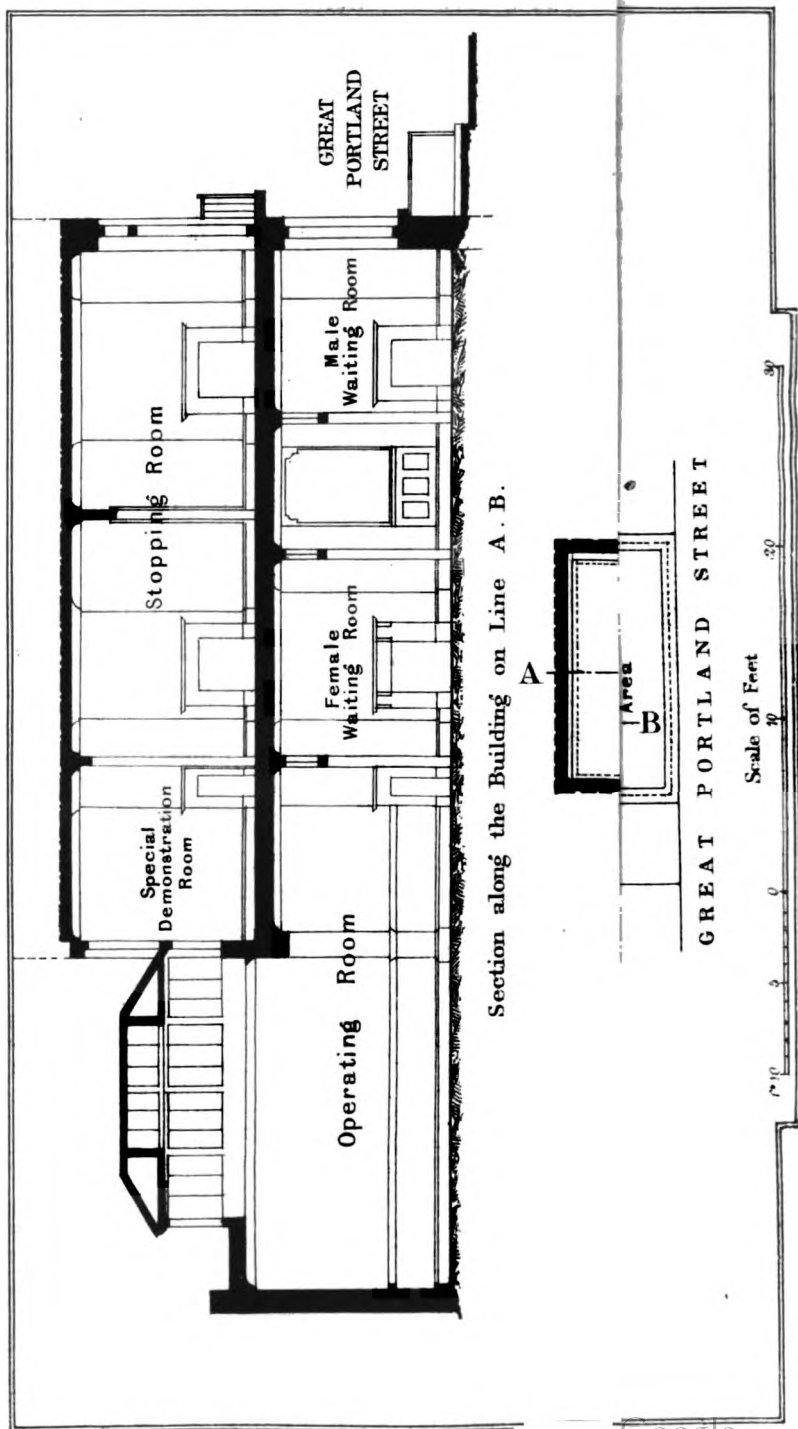
"1831, June 8th.—The Master, &c., of the Company of Apothecaries against Benjamin Greenwood.—This was a case in which A bound himself apprentice to an apothecary, who resided eight miles from B. The apothecary then took a house at B, in which A resided, and attended several patients there—the apothecary coming over occasionally, and being consulted by the defendant (A) about the patients. At the trial, before Justice Park, at the York Summer Assizes 1830, the judge directed the jury to find a verdict for one penalty of £20, but reserved liberty to the defendant (A) to move to enter a nonsuit. A rule nisi having been obtained for that purpose, the judgment of the Court was delivered by Lord Chief Justice Tenterden, who, after stating the case, proceeded as follows: 'It was argued for the defendant that, if he should be considered as practising within the terms of the Act, every apprentice to an apothecary who, in the absence of his master, should give attendance, advice, or medicines, might be so considered. We think, however, that no such consequence will follow. The Act does not in terms require a practising on the party's own account; and it must be obvious that, if a case like the present be not within the Act, a door will be opened whereby the objects of the Act may be evaded; and there may be a practising at several towns under one certificate, and at some of these by persons, under the name and colour of apprenticeships, with little or no benefit to the patients from the skill or knowledge of the person who has obtained the certificate. We think the only safe rule is to confine the practice of apprentices to the residence of their master, whereby the patients may in general have the benefit of his skill. In the present case, few of the patients could have that benefit in any degree. We think, therefore, the defendant incurred the penalty of the statute, and consequently this rule must be discharged. Rule discharged.'"—*Brit. Med. Journ.*

APPOINTMENT.

MR. C. J. NOBLE, L.D.S.R.C.S.E., has been appointed Dental Surgeon to the Hospital for Consumption and Diseases of the Chest, Brompton, *vice* Bartlett, resigned.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual course of lectures at this College commenced



on Monday, February 9th, by Professor Parker, F.R.S., who delivered the first of nine lectures "On the Structure and Functions of the Vertebrate Skeleton." On their completion Professor Flower, LL.D., F.R.S., will give nine lectures "On the Comparative Anatomy of Man," in continuation of his course of last year. The lectures will be delivered in the theatre of the College on each Monday, Wednesday, and Friday, at 4 o'clock p.m., until completed.

NATIONAL DENTAL HOSPITAL. 149, GREAT PORTLAND STREET, W.

[We have much pleasure in giving publicity to the following appeal, and we feel sure the adjoining plans will prove interesting to many of our readers just now, when there is a probability of many kindred institutions being started in various parts of the three kingdoms.—ED. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

National Dental Hospital.

149, Great Portland Street, W.;
9th February, 1880.

SIR,—At a recent meeting of the Committee of this Institution the last payment was made of the debt which has been pressing upon the Hospital for several years, but which has enabled the Committee to obtain a lease of the Hospital for thirty-nine years. Only thirteen of these have run out, and the Committee find they are so pressed for room in consequence of the patients having increased from 6054 to 12,125 during the past four years that they have determined to raise an Extension Fund of £400 in order to provide the additional accommodation which this large increase urgently calls for.

May I ask you to bring the accompanying plans before the notice of the profession and ask for their support towards this fund?

The plans will readily show the principal alterations and additions, viz. building out over the yard a larger and well ventilated extraction room, and making separate waiting rooms for the male and female patients.

Should any members of the profession wish to see over the Hospital the Committee beg to assure them that it is open for their inspection at any hour of the day.

I am, Sir,

Yours obediently,

ARTHUR G. KLUGH, *Secretary.*

Obituary.

DR. S. S. WHITE.

[In our issue for January 15th we gave a brief notice of the death of Dr. S. S. White, but it is only just that the following more extended notice of one who did so much for Dentistry should be republished in our pages.—ED. 'B. J. D. S.']

THE following from the 'Philadelphia Times' of December 31st will carry surprise, sadness, and sorrow to the members of the Dental profession, not only in this country, but throughout the world. From an acquaintance of about thirty years with Dr. White I have no hesitancy in endorsing the statement presented in the 'Times' concerning him; and it may, in some particulars, be regarded as falling below rather than overstating the truth. He was much above the common average of men in the power and balance of his faculties. His judgment, will, and perception was naturally of a high order, and had been long under rigid culture. His social qualities were of a high order. As a friend he was all that is implied by that expression in its strongest import.

The 'Times' remarks:—"The death of S. S. White, of Philadelphia, which, the cable announces, took place in Paris yesterday morning, removes from the scene of action one to whom American Dentistry owes more, perhaps, than to any other man, dead or living. His life affords a remarkable example of what energy and perseverance may accomplish, and there are few records in which these attributes are prominent that leave behind them such substantial results. From a penniless boy in an obscure country town, the eldest son of a widow who found a means of subsistence for herself and children by carrying on business in the confectionery line in a small way, he rose, by his industry and thrift, to be the possessor of millions, and, as the pioneer in a new era in Dentistry, to make his name known in almost every country on the habitable globe. He was born in Hulmeville, Bucks County, Pa., in 1822, the son of William R. and Mary White, plain people, with little in the way of worldly possessions, but of eminent respectability. His father died when he was eight years old. The mother, left on her own resources, moved from their little village to Burlington, New Jersey, where she opened a candy store. The son remained with her, helping her in the business, until he was fourteen years of age, when he came to Philadelphia, and entered, as an apprentice, the establishment on Vine Street of his uncle, S. Wesley Stockton, Dentist, and manufacturer of artificial teeth. That was forty-three years ago. Samuel

Stockton White learned his trade, and as soon as he came of age began to practise Dentistry in his uncle's office, in addition to superintending his manufactory. Shortly afterwards he removed to Eighth Street above Race, and went into practice for himself. There he remained till 1845. In that year he took in two partners, Asahel Jones, of New York, and John R. McCurdy, of Philadelphia. The manufacture of teeth began to make up a large part of their business, and in 1846 Mr. White, seeing a wider field of operations, relinquished his practice of Dentistry and began to devote his time wholly to making teeth and Dental instruments. They remained on Race Street till 1848. Then they removed to a property on Arch Street, below Sixth, which they had purchased and fitted up to accommodate their increasing business. Soon the business became the leading one of the country. White's teeth and White's Dental instruments began to be known everywhere. Branch houses were established in New York, Boston, and Chicago. Finally, the partners sold out to their senior in the firm. McCurdy retired in 1859, Mr. White purchasing his interest, including real estate, for \$140,000. Jones retired in 1861, his interest, including real estate, bringing exactly the same amount."

* The business has now grown to stupendous proportions. White's Dental supplies began to be known all over the world. Every invention that came out was bought up by the ambitious manufacturer and made use of one way or another. In 1867 he removed again, and for the last time, from Arch Street down to the massive building on the south-east corner of Twelfth and Chestnut Streets, the lower portion of which is occupied by Bailey, Banks, & Biddle's jewelry store. This is one of the largest buildings in the city, as well as among the costliest. It is five stories high, runs back to Sansom Street, and cost half a million dollars. Here the work of manufacturing teeth and Dental instruments has been going on ever since. Over 300 hands are employed and 4,000,000 teeth are turned out annually.

A prominent Dentist, speaking of the death of Dr. White yesterday, said American Dentistry owed him more than it did to any other ten men living.

"It may be said to date its beginning with his entrance into business as a manufacturer of teeth and Dental instruments. When he began this business Dentistry was in its infancy. The porcelain teeth which, up to that time, had been placed upon the market were but wretched imitations of nature, and looked like so many split beans. Dr. White's first efforts were directed towards improving their shape,

translucency, and adaptability to the mouth. He then devoted himself to the work of reproducing, in form and style, the varieties of teeth found in persons of different temperaments, so that the practising Dentist might be able to find in his stock teeth conforming in their peculiarities to youth and age, male and female, blondes and brunettes, and all the diversified types of humanity. In these efforts he has succeeded to an extent that would seem to leave nothing more to be desired. He has received premiums from all the leading industrial exhibitions of the world, including medals from each of the great world's fairs of London, Paris, Vienna, Chili, and New York, amounting in all to seventy-five medals, the grand medal of honour from Vienna—of which testimonials only eight were received by American exhibitors—inclusive."

In addition to the remarkable success attending him in the manufacture of teeth, he has been equally successful in the manufacture of Dental supplies. From the smallest hand instrument for separating the teeth or excavating for the purpose of filling to the latest improved style of Dentists' chair, which he is said to have taken great pride in, his manufactory has become noted. It is mentioned as a somewhat remarkable fact that the various hand instruments known as scalers, excavators, pluggers, and the like, made in his establishment, have found their largest market in foreign countries which are supposed to excel in the manufacture of the finest specimens of edge tools.

But it was not alone to the manufacture of implements and appliances that his energies have been devoted. For thirty-three years he has exercised what may be termed a controlling influence in Dental literature—first in his connection with the 'Dental News-Letter,' a quarterly journal, which was published for twelve years, and then succeeded by the 'Dental Cosmos,' now in its twenty-second volume.

Dr. White left home, in company with a son and nephew, in November last, to travel for a time in Europe for the benefit for his health. They had been in Paris but a few days till he was taken suddenly ill, and this was followed, within forty-eight hours, with the news of his death. Congestion of the brain was the cause.

Any sketch about him without a mention of his readiness to lend a hand to the cause of invention in directions other than his own profession would be incomplete. He became interested in the development of the Gray telephone as early as 1875, and by advancing money to the inventor was, in a measure, instrumental in bringing about the present satisfactory system of telephonic operations. He was also a

stockholder in the American Speaking Telephone Company, comprising the Phelps and Gray patents.

Dr. White was, for many years, a member of the Arch Street M. E. Church. He was also a member of the Union League, the Reform Club, the Franklin Institute, the American Association for the Advancement of Science, the United States Board of Trade, the Pennsylvania Association of Dental Surgeons, and of many other business, social, and benevolent organisations. He dies worth about one and a half millions.—*Dental Register*.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

PROFESSIONAL FEES.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I am glad to see the subject of professional fees brought up. I do most earnestly hope it will be generally taken up, and something done to promote uniform charges amongst respectable Dentists.

A short time ago I was called a swindler for charging ten shillings for extracting a tooth under the influence of nitrous oxide gas, and I lost the family, as patients, by the transaction. Had there been a regular scale of fees, or if we had a list of fees (medium) published in your Journal, one could refer patients to it in the event of a dispute, and I might then have kept my patients and saved my reputation, with one family at any rate.

I hope others will take this up, as it is very hard for a man charging a fair price for his services to be called a swindler, and the man who degrades his profession into a trade by charging very low prices (I had written fees, but I do not think they are worthy of that name) gets credit with many for being very honest. This subject chiefly affects provincial Dentists, and I hope they will attend to it, as I suppose London men have not that difficulty to contend with.

Yours, &c.,

GEORGE BEAVIS, L.D.S. Dub.

10, Stow Hill, Newport, Monmouth.

WHAT IS DENTISTRY, AND WHAT DO DENTAL ASSISTANTS THINK OF IT?

To the Editor of the 'British Journal of Dental Science.'

SIR,—As you have agreed to allow all parties to freely

express their opinions in the Journal, perhaps you will kindly insert the following, as it relates to the working of the Dentists Act from a point of view that as yet has received little or no attention, viz. how assistants look at it. All the letter writing, &c., that has appeared lately about chemists is merely a side issue, and may be summed up in this—that if any one other than the regular Dentist is to be allowed to register, then the chemist has just as much right as the surgeon “or any other man;” but the main point of the whole question has as yet been completely passed over, and till this fundamental point has been settled one way or another it is waste of time to talk of prosecuting any one; and the fundamental point is just this—What is Dentistry? and what is a Dentist? Now, as a hard practical fact (however disagreeable it may be to some) Dentistry is a manufacturing, mechanical trade, requiring skill and artistic ability, and it is also a profession having a relation to surgery, but standing on its own basis; it is not either the one or the other alone, but a combination. How is the Act to work, seeing that any interference with a trade would not be allowed? Of course it is said and held that it is not a trade, but then “that’s just the rub,” as “Senex” says; the whole question must of necessity centre round that, and till that point is fairly and fully looked in the face, without dodging of any kind, and settled according to the facts, not opinions, nothing is done.—Yours, &c., W. W. D.

P.S.—Should you publish this, I would send for insertion in another number a few words in regard to apprenticeships that require clearing up in relation to the Act.

Feb. 4th, 1880.

NICKEL PLATING WITHOUT A BATTERY.

To the Editor of the ‘British Journal of Dental Science.’

SIR,—The article published in the Journal, January 15th, 1880, entitled “Nickel Plating without a Battery,” by W. J. Cherey, appeared in your Journal, January, 1872, vol. xv, p. 36, and is there ascribed to Prof. F. Stolba.

I am, &c.,

AN OLD SUBSCRIBER.

[We are much obliged for the correction.—ED. ‘B. J. D. S.’]

FLASKS FOR MAKING NITROUS OXIDE GAS.

To the Editor of the ‘British Journal of Dental Science.’

SIR,—Can any gentleman inform me of any other flasks

that can be used in making nitrous oxide gas besides the ordinary glass ones sold at the depôts? We have been very much annoyed and inconvenienced by the constant breaking of flasks, and the thought has struck me that retorts made of earthenware or enamelled iron might be advantageous employed, and I have a dim recollection of reading in either the 'British Journal of Dental Science,' or the 'Cosmos,' a stone bottle being used for the purpose. I shall be thankful for any hints on the subject.—I am, &c.,

J. J. MUSGRAVE, L.D.S., F.P.S.G.

7, St. Domingo Vale, Liverpool.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have a somewhat peculiar instance which possibly may be worth recording. It occurred to me whilst extracting a deciduous lower central incisor for a little girl patient. It popped out with a "snick," the whereabouts no one knew. After the child and its mother had gone a friend drew my attention to the fact that my nose was bleeding, and feeling a peculiar sensation of pain in that region I blew it, and, lo! the tooth!

H. LAURENCE, L.D.S. Ireland.

The Rosary, Broadway, Ealing.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The enclosed cutting was taken from the 'Western Morning News' for last week, what day I really cannot tell, but I thought you would like to see it, as it evidently shows that the Dental Register is doing good. Wishing a happy and prosperous new year for yourself and Journal,

Yours, &c., "T."

"A dispute about two false teeth was the subject of an action, brought before Mr. M. Bere, at the Falmouth County Court, yesterday. Mr. Gustavus D'Raymond sued Mr. Richard B. Bolitho to recover £1, the price of two teeth manufactured for the defendant, but which, it was stated, he refused to take, on the ground that plaintiff was neither a Dentist nor a physician. His Honour asked the plaintiff for his certificate, and as he did not produce one he was not suited."

[We do not quite understand this case as related, the Dentist's name appearing on the Dentists Register, and a copy of such Register should have been in the possession of the officers of the Court; that would have been sufficient legal evidence that the plaintiff was a Dentist according to the Act.—ED. 'B. J. D. S.']

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
 2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
 3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
 4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :
 Twelve Months (post free) 14s. 0d.
 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
 5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

ANSWERS TO CORRESPONDENTS.

G. H. J. R.—We cannot answer your questions at present, but will inquire.

Communications received from G. Sylvester, J. T. Rogers Bate, "In Practice," — Lang, "W. W. D.," Arthur G. Klugh, "An Old Subscriber," J. J. Musgrave, John Wood.

BOOKS AND PAPERS RECEIVED.

- 'Malvern Advertiser.'
- 'Warrington Guardian.'
- 'Le Progrès Dentaire.'
- 'Die Zahntechnische Reform.'
- 'Johnston's Dental Miscellany.'
- 'Zahnärztlicher Almanach.'
- 'Glasgow Medical Journal.'
- 'Journal of the Chemical Society.'
- Ditto Supplementary Number.
- 'Journal of the Society of Arts.'
- 'Gazette Odontologique.'
- 'Deutsche Vierteljahrschrift.'
- 'First Report of the Western Counties Dental Association.'
- 'Transactions of the Odontological Society.'
- 'L'Odontologia.'

British Journal of Dental Science.

No. 291.

LONDON, MARCH 1, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

NEURALGIA.

By W. HODGSKIN HOPE, Esq.

THIS disease in its various forms has to be dealt with by ordinary Dental practitioners more than any other.

Neuralgia faciei, or *tic douloureux*, perhaps holds the most prominent position; nevertheless, other kinds present themselves, and deserve our careful attention. Take, for instance, *hemicrania*, *sciatica*, *hepatalgia*, *enteralgia*, and many others.

There are further developments of this distressing disease for which it would be difficult to account or attach a name to.

Several cases of the latter class have lately come under my notice, two of which I shall subsequently mention.

Some considerable time ago I was present when an operation was performed for the cure of a most remarkable form of neuralgia, answering to the description given by Dr. Gross, of Philadelphia, of cases met with in his experience.

He describes the affection as taking place in edentulous jaws or spaces from whence teeth have been extracted, and goes on to point out that the pain is usually localised, the wasted alveoli and the gums overlying them being its seat. He observed that it occurred in elderly persons, and, like some other forms of neuralgia, was temporarily relieved by quinine.

Dr. Gross explains the pathology of the affection in this way:—That the minute nerves distributed through the wasted alveolus undergo compression from a deposition of osseous matter in the canals. His treatment of the disease was, after resorting to the usual remedies and failing, to cut away the affected portions of alveolus, producing in most cases a permanent cure, and in all great alleviation of the symptoms.

In the case referred to above this operation was performed with great success. It occurred in the lower jaw (edentulous),

the spot being from about where the right canine had in all probability been extracted.

In two cases that have lately come under my own personal experience the description given by Dr. Gross answers to the letter. In the first an apparent cure was established by deeply lancing the affected spot and the administration of strong doses of *nux vomica* and *quinine*. The second, a far more protracted one, had to be finally dealt with by the excision of a whole strip of the alveolar process. A most significant cure was effected.

The symptoms in every case I have met with have been alike. The distinct spot or portions could be easily pointed out by the patient, and when touched invariably gave exquisite pain, excessive irritation producing lengthened periods of suffering.

The distressing character of the disease will be readily understood, and its serious effect upon the general health of a patient acknowledged, when it is stated that in the latter case, when artificial teeth had been worn for years, their use had to be discontinued, and no solid food of any description could be taken.

Wellinboro'.

CERVICO-BRACHIAL NEURALGIA CURED BY EXTRACTION OF A WISDOM TOOTH.

By J. J. MUSGRAVE, L.D.S., F.P.S.G.

ON the 18th of February I was consulted by a patient who was suffering from severe neuralgic pains in the left temporal region of the head, and extending to the neck and arm on the same side. The patient described the pains in the neck and shoulder as being so severe as to interfere with the use of his arm.

Judging the pain in the temporal region to proceed from reflex irritation of the "auriculo-temporal nerve," caused by its connection with the "inferior dental," both belonging to the third division of the fifth pair of nerves, I determined to extract a decayed left lower wisdom tooth, and on doing so completely relieved all the pains. The pulp of the tooth was in a state of chronic inflammation.

Now, although the implication of the cervical and brachial plexuses in neuralgia caused by carious teeth is a fact well known to Dental surgeons, I have never been able to obtain a satisfactory reason how it is that these nerves,

which are spinal, should be affected by irritation of the maxillary nerves, which are cranial.

While perusing my anatomical studies on the head and neck, I made it my business to endeavour to find out any communication which might exist, either normally or abnormally, between the maxillary nerves and the cervical and brachial plexuses, but could trace no connection at all, and to the repeated and persistent questions which I put to the demonstrator of anatomy on the subject, I could get no more satisfactory answer than, "We know the sympathy between these nerves to be a practical fact, but have no means of accounting for it."

1, St. Domingo Vale, Liverpool.

EXANTHEMATOUS NECROSIS.

By G. H. J. ROGERS, Esq.

UNDER the above head, in his lecture "On Certain Forms of Necrosis of the Jaw," Mr. G. D. Curnock states, at p. 162 of your last issue, "The honour of first describing it is due to Mr. Salter," &c.

Far be it from me to desire to see Mr. Salter robbed of even one of his many well-earned laurels, but that distinguished gentleman would probably be as much surprised at having this honour thrust upon him (should it meet his eye) as many other persons have been.

Mr. Joseph Fox (who, I believe, was the first to occupy the Chair of Dental Surgery at Guy's Hospital) has both described the disease and given illustrative plates of it in his 'Natural History and Diseases of the Teeth,' but as that work may not be accessible to many of your readers I transcribe the following case :

"A similar case [alluding to another of much interest] has for some time past been under the care of Mr. Dorratt, of Bruton Street. A child had the smallpox about Christmas last. Soon after the fever had abated the mother found a tooth upon the child's pillow; other teeth soon afterwards became loose, and dropped out. After this great swelling of the integuments, covering the face and chin, succeeded. This inflammation soon proceeded to suppuration. A great quantity of matter was discharged from the gums, which then began to retire from the jaw-bones."

"A large piece of bone, with several teeth, exfoliated from the upper jaw, and another piece from the under jaw; and when Mr. Dorratt gave me the account of the case he in-

formed me that he expected the exfoliation of another large piece" (see Plate V, figs. 6, 7, Part II, p. 120).

My quotation is from the third edition of Mr. Fox's work, published in 1833, but the first edition was published in 1803.

38, High Street, Maidstone.

Mechanical Dentistry.

NICKEL PLATING WITHOUT A BATTERY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Will you kindly allow me to call "Old Subscriber's" attention to the fact that when W. J. Cheney, not Cherey, answered Mr. Dunn's inquiry, which appeared in your Journal of December 1st, for some directions how steel instruments could be easily nickelled, he did not state that the formula he supplied was his invention or that it was original, nor did he copy it from your Journal of January 17th; and would also state, for "Old Subscriber's" information, that, whoever it may be ascribed to, W. J. Cheney used the same formula fifteen or sixteen years ago, and think such conduct on the part of "Old Subscriber" most uncalled for, and would prevent much of that useful information being supplied, which so greatly enhances the value of your Journal.

I am, &c.,

W. J. CHENEY.

95, Great Ducie Street, Manchester.

NON-ADHESIVE LIQUID.

To the Editor of the 'British Journal of Dental Science.'

SIR,—At foot is a very good formula for a non-adhesive liquid. If you think it will be of any value you can insert it in the 'British Journal of Dental Science.' It is not my formula. I came across it a few months ago. Have used it and found it of service.

I am, &c.,

F. W. STAINTHORPE.

White curd soap	.	.	.	$\frac{1}{2}$ oz.
White wax	.	.	.	$\frac{1}{2}$ "
Acid	.	.	.	2 pints.

Boil together for a short time in a clean vessel.

Gateshead.

Hospital Reports and Case-Book.

NATIONAL DENTAL HOSPITAL, 149, GREAT PORTLAND STREET.

THE annual meeting of the subscribers of this institution was held on Friday, the 20th of February, at the hospital, when the treasurer, S. Lee Rymer, Esq., in the unavoidable absence of the president, the Lord Viscount Enfield, presided. The reports show that the hospital is still progressing satisfactorily, and the following table submitted to the meeting will give an interesting account of the institution's work during the past ten years.

<i>Year.</i>				<i>Receipts.</i>		<i>Patients.</i>	<i>Cases.</i>
June, 1869, to June, 1870	...	£139	11 0	...	5,546	...	6,790
" 1870 " " 1871	...	187	13 2	...	4,840	...	6,878
" 1871 " " 1872	...	168	6 7	...	5,727	...	7,239
" 1872 " " 1873	...	137	5 1	...	6,157	...	7,243
" 1873 " " 1874	...	180	7 3	...	6,061	...	7,018
" 1874 " " 1875	...	160	8 2	...	6,064	...	7,059
" 1875, to Dec., 1876	...	456	19 11	...	7,249	...	8,509
Dec., 1876 " " 1877	...	463	14 9	...	9,887	...	11,352
" 1877 " " 1878	...	527	12 9	...	10,914	...	13,069
" 1878 " " 1879	...	541	6 10	...	12,133	...	14,957

The year had been signalised by the kindness of the Duke of Westminster allowing, on the request of the committee, kindly conveyed by Lord Enfield, a concert to be given at Grosvenor House in aid of the funds of the hospital, the proceeds of which amounted to £82 4s. 7d. The Corporation of the City of London had helped the institution by a grant of fifty guineas, and this the committee deemed a subject of great congratulation, as the affairs and objects of all institutions are closely analysed and questioned before any grant is made from the City funds.

The Hospital Sunday Fund awarded the institution a grant half as much again as that of the previous year; this result was in consequence of a lengthy correspondence with the distribution committee of the fund, pointing out the smallness of their former grants in comparison with the great good the institution is the means of doing.

Particular stress was laid upon the extreme urgency of the alterations required at the hospital, a plan of which has recently appeared in these pages.

Several changes had occurred in the medical staff, and the medical committee reported that the daily work of the hospital had been much facilitated by the appointment

of Mr. D. G. Weiss, L.D.S. Eng., as house surgeon. Mr. Oakley Coles' resignation of the office of dean of the hospital in favour of Mr. Gaddes had been received with much regret, as the committee could not but feel how much they owed to this gentleman's energy and devotion for the progress which the hospital has made of late years.

The following statement shows, in detail, the work done at the hospital from January 1st to December 31st, 1879 :

Number of patients attended ..	12,133
Extractions {	
Children under 14	4003
Adults	5377
Under Nitrous Oxide	595
Gold Stoppings	438
Other Stoppings	2598
Advice and Sealing	1222
Irregularities of the teeth	272
Miscellaneous	452
	<hr/>
	14,957

The CHAIRMAN, in moving the adoption of the reports, congratulated the subscribers upon having heard such satisfactory accounts of the hospital's work. He commented especially upon the tabular statement of the last ten years, and then traced the career of the institution since its opening on 11th November, 1861, by Dr. Bayly, M.P. He referred to a lecture given by Dr. A. Carpenter, on 14th May, 1857, in which the lecturer said, "Never rest from your labours for one moment until you have established a Dental hospital and dispensary. The poor of this great metropolis require aid, and your students require ocular demonstration. Your course of study will never be complete without clinical lectures and the positive education afforded by hospital practice. Do not lose sight of this point as you value the advancement of your profession." This injunction, he thought, the founders of the Institution had not forgotten, and they certainly did not deserve the sarcasm passed on Englishmen by the old Italians, seeing how soon after this lecture the hospital was opened.

"I am an Englishman, and naked I stand here,
Musing in my mynde what rayment I shall weare :
For now I will weare this, now I will weare that,
Now I will weare—I cannot tell what."

The committee of management and treasurer were then elected, and votes of thanks passed to the medical staff, auditors, treasurer, and the committee of management.

A hearty vote of thanks was then proposed by Mr. F. WEISS to the chairman for kindly presiding on the occasion, and

Mr. OAKLEY COLES, in seconding this motion, paid a very handsome compliment to Mr. Rymer who, ever since he called the first meeting at the London Tavern, on September 22nd, 1856, had always been foremost to help in the interests of the Dental profession and in the cause of Dental science. He wished it now to be put on record that he thought the time had come when another earnest movement should be made by the profession. Until late years the Dental hospitals in the metropolis had no rivals to contend against; but there were now those of Dublin, Edinburgh, Glasgow, and, of course, the American. And the movement which he thought was extremely desirable was the uniting, under one committee of management, the two Dental hospitals in London. The advantages to be derived from this were very evident; not only would the cost of maintaining two separate institutions be done away with, but the friction necessary for providing the necessary funds for carrying on the work would be reduced to a minimum. In addition to this, he desired to see a central board of those engaged in teaching, to regulate the details of Dental education. He was glad to find another member of the committee of management of the Leicester Square Hospital besides himself present, and he trusted that this might be accepted as a sign of the sympathy which was springing up between the two institutions.

The CHAIRMAN, whilst thanking the committee for the hearty and kind vote of thanks accorded him, acknowledged the great services which Mr. Oakley Coles had rendered the institution, and trusted that the very important remarks which had just fallen from him would remain in the minds of those present, and inaugurate a new phase in the history of the National Dental Hospital.

British Journal of Dental Science.

LONDON, MARCH 1, 1880.

CONTINUING the subject of our last leading article upon the question raised by Mr. Saunders in his valedictory address, as to the expediency of the President of a learned society retaining office for more than one year, we must first thank that gentleman for his courteous explanatory letter which we have published with much pleasure at p. 253, and

express our regret that we should, in any way, have appeared to misrepresent his views. With this apology for our unintentional offence, all personal reference on our part will cease, but the principle remains to be discussed, and that is whether it is advisable, in the interests of a scientific society, that the President should retain office for more than one year. We unhesitatingly say that it is not, and we venture to predict that if, at some future time, the Society was canvassed on the question, the vote would be in accordance with our views; we say at some future time because if the matter were now raised it would be tainted with personal feeling which should never affect such questions.

We have already plainly and openly expressed who *should* be our next President—Samuel Lee Rymer—rules and regulations notwithstanding; he has earned it by his past energy—by his present genial kindly co-operation with all present movements—but apart from that subject we cannot but think that a resolution should be put on the minutes of the Council of the Odontological Society that it is desirable that at some future date, which the Council could suggest, that the question of Biennial Presidencies should be discussed and decided upon. We fancy there are not many who would care to take up the burthen of anxiety and responsibility involved in the office, for two years, yet they would feel proud and honoured by their election to such a position for one year, and honestly and faithfully perform their duties for that period.

Then, again, it must not be forgotten that there are many whom the seniors are accustomed to look upon as young men, from having known them since they were boys, who are now in their turn verging on to middle age. Young men, so to speak, who would honorably fill the chair their fathers filled before them, but whom the proposed system of two years' presidency would keep out of it so long, that other aims and ambitions might perchance occupy their minds to the undoubted loss of the Society.

We have not space to enter further on this matter, but we fancy we have said enough to induce our readers and the Members of the Odontological Society to think, and deem.

it well seriously to consider, ere they give their vote to the project of a two years' presidency, which might go far to damp the reviving energy of the Odontological Society, that has now so many rivals in the field, but which under the kindly and skilful management of our late President, Mr. Edwin Saunders, has shown such strong signs of a revival, that will, we feel sure, be maintained by his successor, Mr. Woodhouse.

Literary Notices and Selections.

ON CONTRACTIONS OF THE MOUTH.*

By E. D. MAPOTHEE, M.D.,
President Royal College of Surgeons; Surgeon to St. Vincent's
Hospital; Consulting Surgeon to the Dental and Children's
Hospitals, Dublin.

(From the 'Medical Press and Circular.')

DURING the past three months cases of contraction of the jaws and oral aperture have occurred to me which may interest the Society, especially the first, which relates to the branch of surgery lately affiliated with our College.

A lady, aged 24, married, and mother of one child, consulted me for closure of the jaws, which had been increasing for eighteen months from March, 1878. Then there had been toothache of the second and third left inferior molars, but no abscess or other inflammatory condition. The central incisors could be only separated for two lines, and any attempt to force them apart caused severe stretching pain. Speech was very imperfect, and for months she had been fed with fluids sucked from the point of a teaspoon. She was therefore weakly because underfed. The left masseter felt through the skin very hard, and its anterior border, examined through the mucous membrane, was extremely rigid. The right muscle was softer, but also in tonic spasm.

As antispasmodics had been fully tried by two leading physicians, and as further closure, to the total exclusion of food, was dreaded, I urged examination during anæsthesia, and the aid of Mr. Baker, F.R.C.S., was procured. When etherisation was complete the jaws could be fully separated, and the dilators we had ready were not needed. They were

* Read before the Surgical Society of Ireland.

of the kind invented by the late Mr. Maunder—a boxwood cone with a spiral groove, just like the *Rostellaria* shell—and the steel two-bladed one. Mr. Baker extracted the wisdom tooth, which was impacted in the root of the coronoid process and the second molar, which it had displaced and diseased. For a few days there was soreness in moving the jaws. Last week I saw that she could fully enjoy a yawn, and that, having chewed solids, her health greatly improved.

The Americans term this disease *trismus dentium*, and the words *sapientiae inferiorum* may with exactness be added, for it is these teeth alone which excite it. The upper wisdom teeth can make room towards the tuber or antrum, but the coronoid process is less yielding when eruption is hindered by crowding of the teeth owing to want of growth backwards of the ramus. At the age of six years the sacs of the lower wisdom teeth appear, and at twelve calcify in the middle of the coronoid process. It is quite common for them to remain half-erupted, and covered by a flap of gum, which causes much pain in mastication, and leads to caries, as noted in John Hunter's great work on the teeth (1778), which constitutes him the father of dental pathology. Malposition of these teeth has produced pharyngeal and sub-fascial abscesses so severe as to threaten life, and connected nerve symptoms like aphonia and amaurosis. They lie so close to the inferior dental nerve that it has been torn during their extraction. The great size of this nerve, and its close connection with the twigs to the masticatory muscles, explain spasm of them, especially as their antagonists, the muscles which open the mouth, are weak and indirect in action.

It is reported that metal stoppings, especially those of both the positive and negative conditions, have excited electrical trismus of the masseter. Allusion may be made to other causes of trismus. Dr. G. Johnson relates that a grain of flint lodged for fourteen days in a scar in the cheek caused trismus, and, what seems inexplicable, palsy of the seventh. The buccal, mainly a sensitive nerve, forms a plexus with the facial; epilepsy in this case had recurred after a lapse of twelve years, but removal of the irritant cured all. Barwell found it unilateral from a temporal wound, and with the peculiarity of relaxation during sleep. The literature of trismus nascentium is so familiar that I will only remark that tetanus, spasm of other muscles, supervenes if the infant lives long enough, and that some of its assigned causes could act through the cutaneous branches of the inferior maxillary division of the fifth nerve.

Cold to the face, the only exposed part, chill after very hot baths—causes said to have respectively produced the great Iceland and Vienna epidemics—might be thus regarded. The foul air pent up in the Rotunda one hundred years ago, and the effluvia from filth round Negro babies, would act on the eighth nerve, and pressure of the occipital bone during parturition upon the respiratory nerve-centre, as urged by Marion Sims, would lead to spasm of the muscles of the mouth, pharynx, and chest. Causation by inflammation about the navel, as assigned by A. Colles, is beyond neurological speculation.

The treatment in my case was simple and effectual, yet by some, gradual separation by means of a wedge, or of Cattlin's rack and pinion separator, is preferred; and the masseter has been subcutaneously divided in one instance, the closure being so extreme that the patient had to put the lips into fluid food and suck up like a pig. In another case the digastric, a weak antagonist, has been excited by galvanic needles stuck into it.

It is rash to point a moral from a single case, but I believe most serious troubles could be avoided by the diagnostic power which a course of lectures on dental pathology would confer on every member of our profession.

(To be continued.)

DEATHS FROM CHLOROFORM.

(Reported in the 'Medical Journal'.)

A DEATH from the action of chloroform took place recently in Mr. Chiene's wards in the Edinburgh Royal Infirmary. The case was one of removal of a projecting phalanx from an injured finger. Death occurred before any operative interference. All the usual restorative means were employed unavailingly. The chloroform was administered by a dresser, under the direction of the house surgeon; Mr. Chiene himself was not present. On post-mortem examination the only pathological state found was fatty liver—a condition, of course, which has, so far as is known, no bearing on the subject of death from chloroform.

On the morning of the 19th instant, Mr. Alexander Thom, Surgeon, of Brampton, Cumberland, was found dead in his bed under circumstances which leave no doubt that he died by misadventure, from the effects of an overdose of chloroform administered by himself. Deceased had retired to rest

apparently in good health, and was found in the morning lying upon his bed, partially undressed, and having evidently been dead for some hours, with a piece of lint, nine or ten inches square, lying upon his face. Dr. Wotherspoon stated at the inquest that his partner, Mr. Thom, had been in the habit of inhaling chloroform from time to time to induce sleep, for the last nine years, and that lately he seemed to have followed his dangerous practice more frequently. Mr. Thom, who was forty-two years of age, was Medical Officer of Health for Brampton. He was much esteemed by his professional brethren, and he had a very large private practice.

The 'Boston Medical and Surgical Journal' reports that G. A. N., aged 20, mechanic of St. Johnsbury, Vermont, desired to have several teeth extracted. He was examined by a competent physician, and his heart and lungs were found in good condition. On Friday, December 26th, the patient for one hour inhaled sulphuric ether without the desired effect. On Tuesday, December 30th, chloroform was inhaled from a napkin within a paper funnel. The pulse 80, and regular; the action of the heart and lungs was good. The patient soon went kindly under the influence of the vapour; one tooth was extracted; sensibility partially returned; the mouth was cleaned; more chloroform was administered; two teeth were extracted; sensibility again partially returned; another tooth was extracted *without* more chloroform. The patient then began to struggle, and exhibit signs of pain; his head was brought forward, and his mouth well cleared. He was then returned to his former position, when he suddenly threw up his arms, rolled up his eyes and ceased to breathe. He was then instantly placed in an inverted position, his tongue drawn forward, and artificial respiration applied. The heart still continued beating, yet there was no pulsation at the wrist; face very livid, and no natural respiration. The heart continued to act very feebly and irregularly until forty-five minutes after breathing ceased. Efforts were continued until, at the end of one hour, the patient was pronounced dead. Artificial respiration, inversion of the body, electricity, iced water, and all other known remedies were faithfully employed. The amount of chloroform used was three ounces by weight. No post-mortem examination was made.—*Brit. Med. Journ.*

SIR, I beg to forward brief notes of a case of death from chloroform, which occurred in the West Norfolk and Lynn Hospital on the 29th January.

Rosannah H—, aged forty-five, was admitted into the Lynn Hospital on January 24th, 1880 with a large uterine polypus. Her previous history up to two years ago was good; no history of rheumatism. Two years ago the catamenia, which up to that time had been regular, ceased; from this period there is a history of uterine hæmorrhage coming on suddenly, and at intervals of a fortnight to six weeks. There is no doubt, from the anæmic appearance of the woman, that in this period she has lost a considerable amount of blood. She has lost flesh since Christmas. At an adjourned consultation of the medical staff on January 29th it was decided that chloroform should be given, in order that a thorough examination of the uterus, with a view to operative measures should be made. Accordingly, Dr. Dale gave at first ether, then ether with chloroform, and lastly, chloroform alone. The total quantity of chloroform used did not exceed two drachms. All went well for the first eight or ten minutes, when *suddenly* the breathing became loudly stertorous, the face cyanotic, and the pulse at the wrist ceased, the pupils being slightly dilated. The tongue was at once drawn well out of the mouth, flipping the face and body with cold water tried, and artificial respiration at once begun. She apparently rallied a little, but for a very brief period; the heart's sounds, however, could not be detected. The right external jugular vein was very prominent, and was opened, blood flowing in a jet at once. Galvanism to the heart, an enema of brandy, turning the body on the side (Silvester's method), and raising the trunk with the head low, were all tried.

Artificial respiration was persistently kept up by Mr. Sweeting, Mr. Wilson, Mr. Plowright, and myself for fully one hour. Dr. Dale noticed a somewhat accentuated second sound at the base (but there was no bruit) before giving chloroform.

At a post-mortem examination made twenty-three hours after death, rigor mortis was very slightly marked. On opening the chest a good deal of fat existed in the anterior mediastinum. The pericardium was normal; the muscular fibres of the right ventricle were greatly hidden by a deposit of fat. The left ventricle was empty; the right contained no clots; the blood was quite liquid. The mitral valve had a small circular patch of induration; four to six little bead-like bodies of lymph existed on the central aortic valve; slight digital pressure was sufficient to loosen some of these beads. The heart weighed fourteen ounces, and was therefore above the average weight; the fibres did not break down under the fingers; the heart's substance was firm and

did not feel greasy. Microscopic examination, though it showed a partial fatty infiltration of the muscular fibres, gave no evidence of fatty degeneration of the fibres themselves. The lungs were somewhat small but healthy. Liver large and anæmic; kidneys and spleen normal. Examination of the uterus proved the existence of a large polypus the size of a child's head attached by a circular and slender pedicle, close to the fundus of the uterus. The right ovary had several cysts in it. The polypus could easily have been removed (had the patient lived) by Barnes' wire écraseur.—I am, Sir, your obedient servant, ARTHUR GEO. BLOMFIELD, M.B., House Surgeon, Lynn Hospital.—*Lancet*.

SIR,—In case Mr. Jeaffreson's letter in your issue of the 21st inst. should suggest the idea that artificial respiration by Silvester's method was not the first and chief means relied on for restoring animation in the recent case of death from chloroform in this hospital, allow me to state again what I had hoped was prominently brought forward in my first letter, that artificial respiration was *persistently* and *uninterruptedly* kept up for fully one hour. I mentioned that cold applications, galvanism, and enemata were tried simply because we had plenty of assistants at hand, and not with the idea of laying any stress on their importance, or even, may I add, value. I fully endorse Mr. Jeaffreson's remarks that artificial respiration, *immediately* begun at the first sign of danger, and uninterruptedly continued as long as thought desirable, is *the thing* upon which we should depend. In the case I recorded we fully recognised and acted upon this principle from the first.—I am, Sir, your obedient servant, ARTHUR GEORGE BLOMFIELD, M.B.—*Lancet*.

SIR,—The report of the death from chloroform at the Lynn Hospital, as detailed in a letter in your last issue, prompts me to make a few remarks upon the treatment of these cases, especially as they have been somewhat numerous of late.

I do not think that many who administer chloroform appreciate the importance of *immediate* systematic artificial respiration being adopted at the first appearance of the natural cessation or failure of these functions, and often the valuable *seconds*, which may make the difference between the life or death of the patient, are wasted by watching to see if breathing has returned, or is likely to return, by dashing cold water on the face and other efforts, which, though indirectly of some service perhaps, cannot cope with the real danger. Engaged in considerable ophthalmic and

general surgical practice, I must have administered or caused to be administered, some form of anæsthetics (chiefly chloroform) several thousands of times within the last fifteen years, and it affords me great pleasure to say that I have never witnessed a death from any of these agents. I have notes of five cases in which death seemed imminent, but was averted. The plan which I always adopt is to commence at the first appearance of danger Silvester's method of artificial respiration, and continue it until natural respiration is completely established. If plenty of assistants are at hand they may apply other adjuvants, such as cold applications, galvanism, enemata, &c., but the person who *has commenced artificial respiration* should *continue uninterruptedly*, and without a moment's cessation, his efforts, nor should they be discontinued, under any pretext whatever, until life returns, or the patient is unmistakably beyond the reach of medical aid—I am, Sir, yours &c., CHRISTOPHER S. JEAFFRESON, F.R.C.S.—*Lancet*.

DENTAL REFORM.

By OUR ENGLISH CORRESPONDENT.

[WE reprint the following account of recent Dental events in England from the 'Missouri Dental Journal,' as we think it is just as well that we should sometimes see ourselves—as Burns says, though in his northern dialect—as others see us.—Ed. 'B. J. D. S.']

THE appearance of the Dental Register completes, it would be a happiness to think, the drama, comedy, or farce, as it will be differently viewed, of so-called "Dental Reform." Although this matter has prominently occupied the minds of Dentists in the United Kingdom for the last three years, it really began in 1859, when there was established in London a Dental school with such a curriculum as might have been expected from those who aim at taking the lead in Dentistry in the metropolis. With little appreciation with the progress made by the schools in America, which it was intended to more than rival, and with apparently no comprehension of the needs of a great and rapidly expanding profession which has developed an unmistakable individuality, the promoters of this school proceeded to tack Dentistry on to the College of Surgeons as an *inferior* order in medicine, to give its students but little else than a superficial

medical education, and then confer upon them, what we are constantly reminded is an inferior medical title, that of "Licentiate in Dental Surgery;" or, as the "Lancet" sneeringly puts it, "one of those half qualifications which are granted to Dentists." It would seem that the promoters of the London Dental School had an idea that Dentists, like Uriah Heap, loved to be 'umble. It will be difficult for the American Dentist, with his individuality, his love of independence, his pride in his profession, and his anxiety to excel, to comprehend the state of mind that could seriously contemplate such a system of education with an idea that it could produce Dentists, just as it is impossible for him to understand the mental condition, and aims of that class in England which Thackeray and Trollope so vividly describe, who, by a constant use of pseudo-nomenclature, are ever aiming at something else than what they appear to profess. Possessing little inward strength, such men can never stand without the props they are constantly erecting. Monopoly and protection is, to them, the breath of life, and without it they die. Especially in matters of education is everything the reverse of what other men think justice and good sense. It is not so much for the purpose of knowing a thing as to appear to know it, not to have knowledge for its good to others, or even for its own intrinsic good to the possessor, but for the superiority it gives him over the non-possessor of it. "Knowledge is power," is their view of education; and not so much to deserve a position as to know how to assume it, is the chief end of their efforts. Education, therefore, is only a form of monopoly, which becomes one of the exclusive rights of those who can afford to pay for it, and must be made as dear and as difficult as possible. In reference to reform, said one of its promoters to me, "I do not believe in cheap education. With such a view of education, it will be apparent that the knowledge which costs so much is not to be given away to possible rivals, and that the public is to be regarded as existing exclusively for the benefit of a profession, not the profession as existing for the benefit of the public. Not to impart the knowledge necessary to make a skilful Dentist, but to give the student the appearance of superior education, appears to have been the central thought which controlled this matter. And nearly all the distinctive and peculiar knowledge necessary for a Dentist to possess appeared to be held in contempt, or as something quite too manipulative for the superior persons this curriculum was going to produce. I have read somewhere the statement of an American gentleman, who had called on a leading London Dentists, to the effect that

the latter had said to him, "You Americans make a great deal of filling teeth; we leave that to our assistants while we attend to more professional matters." The author of that statement had, without doubt, much to do with the curriculum of the London school, and would have assured his American brother that it was far superior to any of the American colleges. If the Dentist can leave filling teeth to his assistant, and the making of false ones to his mechanical workman, he has little else to do than take the fees. The same thought that was expressed by this London Dentist had a mouthpiece at the last meeting of the American Dental Association in an American Dentist, who, although he may not be in sympathy, is undoubtedly in communication with these notions, where he refers to the Americans settled here as possessing mere "finger craft," and as being, in comparison to the English Dentists, deficient in education. Although I do not wish to emulate these unnecessary comparisons, let me here remark that the assumption so often made by the leaders of reform of the superiority of the English Dentist in general or medical education has no foundation. That the American Dentists might be much better educated is quite true, but they are, to say the very least, quite the equal of their English brethren. The little knot of men in London who are responsible for this opinion assert it so vehemently that it is quite too often taken for granted without inquiry.

Let any one consult the English and American Dental publications, or the proceedings of the Odontological Society—the only distinctly scientific society of Dentists in England—as regularly reported, and compare them with the reports of the numerous societies in America, and he cannot doubt the truth of what I have asserted. The arguments by which the American Dentist is made to appear inferior in education are as amusing as they are ingenious. We find there is a constant reiteration in America of the necessity for higher Dental education. *Ergo*, those who make a demand for more education must be ignorant, while those who are content with what they have and make no such demand, must be learned. The logic is conclusive to the logicians who use it; but to a man of sense the matter appears somewhat different. There can be no desire to excel if we suffer conceit to teach us that we already know enough. Progress in education presupposes that we consider our present stock of knowledge insufficient. The result is that we strive for more. For self-satisfaction to construe the aspiration of the lovers of progress into evidence of their inferiority is a subject better suited to the mental and moral powers of the

Reverend Petroleum Volcano Nasby than a sober, hum-drum Dentist like myself.

This sneer at finger craft, as well as the assumption that filling teeth was merely a mechanical operation quite beneath the attention of a man of culture, is like the vapourings of a man who, having acquired a little theoretical knowledge of music, referred to Reubenstein and Halle as men with merely a certain amount of *execution* on the pianoforte, and Norman Neruda, Strauss, and Joachim, as merely dexterous manipulators of the violin. Punch, who is a determined hater of all sham, touched off this class most admirably a few years since. Gabriel Tinto, a young artist, had a call from some admirers. Being modest, he cut away and left Bouncer, his factotum, to do the honours. Of course, that individual spread himself, and talked of *our* pictures and *our* effects, and so on, until one of the young ladies said: "Mr. Tinto must find you very useful, Mr. Bouncer?" "Oh, yes!" was the reply; "hi does hit most hall. Hi gets the canvas, and prepares the paint, and places the heasel, so that all Mr. Tinto does is to daub it hon." Without doubt, while Mr. Tinto was daubing the great Bouncer was attending to the more professional matters! The result of the curriculum of the London school was what was certain to follow. It made no impression on Dental progress, nearly all of which continued, as before, to come from the other side of the Atlantic. Its students were few, and its graduates, as such, were nowhere regarded as having superior technical education, or as above the average Dentist in manipulative skill. Even more than this might of truth be said, but I forbear. When a comparison is made between the status acquired in twenty years—from 1839, the year the Baltimore College was established, to 1859, the year the London school was started—by the American colleges, with all their disadvantages, and that obtained by the London school, with all its advantages, in the same time, there is overwhelming evidence that something is radically wrong in the organisation of the latter.

In the face of this condition of things what was the profession to do. The three or four Americans that had settled here prior to 1859 had increased to a goodly number. Englishmen had begun to go for the D.D.S. degree; for it, and not the L.D.S. licence, was the passport to a good practice; and there had become firmly established in the public mind the idea that American Dentistry possessed something it was desirable to have. Moreover, the number of Dentists with little or no instruction increased daily. Something obviously must be done.

What ought to have been done was apparent enough, and

it would have been done if simple common sense could have been imparted into the matter. The question whether we are or are not—and if so, to what extent—a branch of medicine is not here under discussion. But the absurdity of making us, if a part of, an *inferior* body in medicine is obvious; and this absurdity reaches a climax when it is perpetrated by men whose practice consists mostly in mechanical work. Everything clearly indicated that the time had arrived for the establishment of Dentistry on a broad basis and as an independent body.

The advantages of London in taking the lead in this matter are immense. It possesses every educational appliance, has wealth ready to be literally poured out in every good or necessary cause, and it is in easy distance to any part of the kingdom. Moreover, there are students all over the country anxious to be taught, and ready to flock to any school the moment it gives evidence that it is prepared to impart the instruction necessary to make a man really a Dentist that has the power to demand a practice as such. There should, then, have been established in London a school for the thorough teaching of Dentistry proper and as a distinct and entirely independent profession. The details of its organisation might have included the making use of an established medical institution for the attainment of the necessary medical knowledge in conjunction with its teachings, or it might have left the student to get that knowledge how he might and as best he might, only the knowledge he must have before he could pass the examination. What should have been the standard for that medical knowledge is an open question; but if it was decided that the student was to have a purely medical degree, let it be one in which he could take pride, as the M.D. of the Universities, or full membership of the College of Surgeons, and not something that marked him as an inferior being. And when the stated course of study, which should be arranged so as to occupy the *least* time and entail the *lowest possible* expense to the students for thorough efficiency was completed, and he was submitted to a genuine practical and thorough examination, some distinctive title which showed that he had been instructed as a *Dentist* should be granted him, the *exclusive* possession of which should be guaranteed by law, and not shared by the favoured few the licensing body chose to give it to *sine* curriculum. When such a school had been established all the world should have been searched, and if any one person, or people, possessed anything that could enrich its curriculum it should have been got; and if any one did anything in a superior way it should have been adopted.

So many Americans could not have come here if they had not brought something for which there was a demand, and which added to the general stock of Dental knowledge and skill. Whatever that attainment was it should not have been left to them as a practical monopoly, but have been incorporated into the English system, until the English Dentist not only rivalled, but more than rivalled, the American in every excellence, and the latter would as soon have thought of shipping a cargo of coals from Philadelphia to Newcastle as to get a practice here on an American reputation. Then our English school, with such a curriculum and such teachings, would have become the leading Dental institution in the world; the American invasion would have ceased from lack of support; and we should have effected, in a few years, and in a satisfactory manner, just the reform needed. A higher class of men would have gone into the profession, and we should have had a body of really—and, indeed, highly—educated Dentists, who would have held their own with other professions, having taken superior positions in society, and the leading practices wherever they settled, either at home or abroad, from the simple fact that as the public found the holder of the English degree to excel it became the passport to success. And also, in the simplest manner possible, the ranks of the efficient and, in the legitimate and not legal sense of the word, unqualified Dentist would have gradually diminished as the really and not parliamentarily qualified man took his place. In other words, instead of protecting inefficiency and mediocrity by law against competition what should have been done was to give the Dentist an opportunity to protect himself by means of superior knowledge and skill.

(To be continued.)

MEDICAL LEGISLATION.

IN the House of Lords, on Friday, February 7th, the Duke of Richmond and Gordon, in reply to the Marquis of Ripon, stated that a Bill relating to medical legislation would be introduced in the other house. It would be the same Bill that passed their lordships' House last session, and which was referred by the other house to a committee. If it was referred to the same committee they hoped to be able to legislate on the subject this session, but, of course, that depended upon the labours of the committee.

Dental News and Critical Reports.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

PRESIDENTIAL ADDRESS DELIVERED FEBRUARY 18TH, 1880,

By W. A. N. CATTLIN, F.R.C.S.

GENTLEMEN,—Allow me to express the gratification it affords me to know that by the goodwill of the Fellows of this Association I have been elected to preside over the only society of Dentists, which has been formed in this country, composed entirely of educated surgeons. I thank you for this honour, which is greatly increased by the fact that it has not been the custom for learned societies holding their meetings in London to select a president who resides, as I do, in the provinces. I congratulate the Association on the success of its first dinner. The cordial manner in which our views have been supported by the very heads of the medical profession is, to say the least, encouraging. Another point of congratulation is that a Fellow of this Society, and one practising our special branch of surgery, Mr. F. Brodie Imlach, now holds the office of President of the Royal College of Surgeons of Edinburgh. Mr. Hamilton Cartwright, in an interesting speech on the above occasion, drew an analogy between the barber-surgeons and the Dentists of an early period, and spoke of them as distinct callings; but I shall endeavour to show that even surgery and Dentistry were one science, and that they were practised together in the time of the poet Gay. In the fable of "The Goat without a Beard," he says, speaking of the goat :

"Resolv'd to smooth his shaggy face,
He sought the barber of the place.
A flippant monkey, spruce and smart,
Hard by, profess'd the dapper art.
His pole with pewter basins hung,
Black, rotten teeth in order strung.
Rang'd cups, that in the window stood,
Lin'd with red rags, to look like blood,
Did well his threefold trade explain,
Who shav'd, drew teeth, and breath'd a vein."

Having traced the surgical branch of our noble profession to a poor relation, I will leave Darwin to determine whether the artificial teeth worn by the ancients might not have been carved by some of our great great grandfathers. "Man is born to trouble as the sparks fly upwards." Some of you will sympathise with me when I tell you that, having very

little leisure, I had worked hard to prepare an address embracing the modern history of Dental reform, when the postman delivered a copy of the 'Transactions of the Odontological Society' with its President's address, in bold print, upon the self-same subject. I was consequently obliged hastily to prepare another, and must ask you to forgive its many faults. Without attributing "malice aforethought," I will refer you to the address in question for much that is entertaining, both in facts and figures, although I shall venture to differ with him in some of his most cogent arguments. Keeping the same subject in view, and comparing our own branch with the parent tree, I shall endeavour to show you as we proceed that both medical and Dental science have had their days of darkness, error, and delay; and, indeed, if we may judge from recent discoveries, science, in its general sense, is only just expanding to the light of modern times.

The learned President of the Odontological Society is *perfectly* satisfied that "the coping stone" has been put upon Dental reform, and that reduction, examination, and legislation, as applied to Dentistry, is now "THOROUGH!" He also considers that, by the Dentists Act, Dentistry, as a profession, is for the first time affiliated to the Royal College of Surgeons and its noble profession. If so, I am naturally tempted to ask how it happens that this promising child, if legitimate, is kept in a home of its own—the Dentists' Register,—and not admitted into its father's mansion—the Medical Register?

The other night I had a dream, forgive me if I speak figuratively, when more than five thousand Dentists thronged around my bed in different costumes. The large majority were busy, with their aprons on, screwing down little iron frames, just as the undertaker does his wooden box; others were cooking, in new-fashioned style, by gas and steam; others, again, were stamping gold and setting teeth upon it, ever and anon puffing and blowing like an engine pipe; a few were dressed as gentlemen with a small mirror or forceps in their hands, the latter with a spot of blood upon it. Some were polite, and some were not, *but all by law were equal*. Some complained about the dirt and noise the others made, their want of scholarship, and altercation followed altercation until a fight arose, and, just as happened in the upper heavens, the wiser won, and drove the others out of their community.

"Is this a dream?—then waking would be pain;
Oh! do not wake me; let me dream again."

As medical politics still force themselves upon us, it may be amusing as well as instructive to confine our thoughts for a short time to the consideration of the early struggles which hindered the development of some of the medical colleges. Should we be driven to found an institution of our own let us be forewarned that changes of great importance cannot suddenly be made; and, although we live in days of rapid progress, great undertakings will require the fostering hand of time to perfect them. The College of Physicians was at one time a very exclusive body; it is now a hall of courteous gentlemen. From being stiff and unyielding it has bent as readily to the spirit of the times as any other institution. One of the greatest obstructions with which the College of Surgeons had to contend in its early educational department was the repugnance of the public to be anatomised. So difficult was it even to obtain small portions of the human frame for dissection that thin bodies with thick heads would probably at that time have been worth most in a moribund condition. It is a little humiliating to be reminded of the time of a body-snatcher named Burke, who, with accomplices, actually suffocated people in the streets, and carried them when scarcely cold into the dissecting rooms. Parts of the human body were, moreover, hawked in various private surgeries, and the dead were raised from the graves, but not in the living state. So great has been the success of the Anatomy Act that every difficulty in this respect has been removed, and the public now live and die in peace, and have derived incalculable benefits from the better education of the medical students. Indeed, so great has been the change that the best subjects are now of little value, and perhaps before long a cremation company may be a profitable investment. There was a time, not many years ago, when the first surgeons of the day boasted of their ignorance of medicine; when most difficult operations were performed with the utmost skill, yet the risk of life was great during the after-treatment. Thanks to the knowledge of medicine possessed by such men as the late Sir Benjamin C. Brodie, and that model of British surgeons, Sir James Paget, this blot upon common sense has been removed. From the same cause it has fallen to my lot to witness much unnecessary suffering, wasted health, and even death, from ignorance in the practice of Dental surgery. If we go back to the year 1815, when the apothecaries of England and Wales obtained their Act of Parliament, and began to remove the main obstruction to their progress, we shall perhaps find an example in them which we may imitate. At that time the majority kept open shops, and

sold pink saucers, smelling-bottles, besides drugs and chemicals, and were really more vendors of medicines than medical practitioners. According to Shakespeare, they were far from being a wealthy class. Feeling their degraded position (for the physician of that day scarcely condescended to consult with an apothecary), they set to work in right good earnest to improve themselves. The law not being retrospective, the more uneducated were allowed to remain in practice upon very slender evidence of their skill, until they were extinguished by effluxion of time. The better men, whilst using the powers of their new Act to prevent empirical practice, instituted most creditable examinations, the severity of which were gradually increased until the apothecaries' licence became one of the best, if not the best, test of medical knowledge. The public, as well as the medical mind, by slow degrees became convinced that medicine in its broad sense included surgery, and hence arose the superior class of general practitioners who now hold the double qualification. As education increased the custom of charging exclusively for medicine became distasteful, and, to meet a rising want in this respect, the druggists improved themselves, and have become the chief dispensers of medicines. It is indeed curious to note how gradually every improvement in the medical profession has taken place, and how certainly every requirement has been supplied. Let us hope that the same good fortune may happen to ourselves.

For some time past the great scheme advocated by the London University of conducting one *thorough* examination as a test for medicine and surgery within one portal, has been growing into popularity, and the signs of the times plainly indicate that such a system is about to become the law. Thus far, since the year 1815, the object of the Legislature has been and now is, to consolidate the different classes of medical practitioners, and equalise medical education, and it is much to be lamented that the Dentists Act should have passed just at this crisis, as it is a strange contradiction of the whole scheme. With these examples before us, let us deliberately consider whether our own history differs materially from them. Like the apothecaries, we cannot boast of a high pedigree, and, like them, our advancement has been slow and gradual, but we have not yet progressed so far. The first grand effort in the shape of progression was made about twenty-four years ago by the formation of the Odontological Society, it is almost impossible to estimate the amount of good by example and precept which that one society has done. Its last proceedings

have, however, stultified its former acts. The Dental Hospital, the late College of Dentists, the Dental Licence, and our own Association have all in their particular way contributed to the improvement which is evident and noticeable in our ranks. Show cases, like the apothecaries' shops, will gradually disappear, advertisements are now less frequent and less vulgar, and I believe the amount of scientific knowledge which Dental Surgeons have contributed to the general stock of literature will bear favorable comparison with any other specialty. All was proceeding well with Dentistry until the Dentists Act in 1878 fell like a withering storm and cut it from the parent tree. Looking earnestly at the present position of medical politics, and the wide difference of opinion which prevails among different grades of Dental practitioners, I am led to think that the hour of danger has arrived, and that this Association will have an anxious duty to perform during the present session of Parliament. Hasty legislation has led to difficulties of a serious character. The Dentists' Register practically separates Dentistry from surgery, and in my opinion, is an error of the highest magnitude. Its blighting influence will be made apparent as time rolls on. It will scarcely be believed that if a surgeon (who may or may not be a Dental Licentiate) declines upon principle to register his name in the Dental Register, he is by Clauses XIX and XXVII of the Dentists Act deprived of the privilege of serving as an examiner upon the Dental board of his own College, unless he sits, which is highly improbable, as one of its surgical members. Probably this flaw is an oversight, and will be altered as soon as the mistake be pointed out. Our sub-committees appointed some time ago, will watch the progress of the Medical Amendment Bill, and, if possible, prevent the abuse of medical titles. They will again urge the Legislature to forbid unqualified persons to use the title of "Surgeon" either alone or in conjunction with any other word or words. Still the question meets us at every turn, What further action ought this Society to take under existing circumstances? Unless some effectual step is *quickly* taken Dentists as a body will be isolated, and I fear be compelled to found a college of their own. In that case, by the constitution of fellows and members, some scheme might be arranged for the gradual separation of the surgical from the mechanical branch, thus imitating the old apothecaries by casting off the detrimental shop. It is to be regretted that out of 5289 names which appear in the Dentists' Register only 533 have given positive evidence of either a medical or Dental education. If the Dentists Act be allowed to remain unrepealed what security is there

that practitioners of other branches of surgery will not apply for and obtain a similar statute? If the Dentists Act be repealed—and I heartily hope it will be—then to prevent a repetition of the evil it has been suggested that when the proposed conjoint examining board is formed a candidate should notify that, in addition to the ordinary examination of a medical practitioner, he desires to be examined particularly as to his proficiency in Dental, aural, ocular, orthopædic, or any other branch of surgery, and if he shall show a thorough knowledge of any such branch a certificate to that effect should be appended to his diploma, and he should be allowed to appear in the Medical Register as practising that specialty. This certificate would not exclude him from general practice, because, being fully qualified in every respect, he would be entitled to practise one or every branch. In any and every case, those possessing the Dental licence should be encouraged to complete their surgical education, and for that purpose great facilities would be given to them during the next three years. They are the cream of the rising generation of Dentists, their greeting is of future hope.

If a little learning is a dangerous thing, and if it be true of all professions that he who is only half educated can only be half trusted, then the Dental licentiates will be most unwise if they remain in their present anomalous position. Finally, I should like to see established in this great metropolis consulting practitioners who, ripe with experience but not dim with age, would throw a halo of respectability around the whole profession. If they would arrange to meet their brethren in the surgeries, I believe they would frequently be consulted by them, as well as by members of the medical profession. During the progress of the Dental Practitioners Bill I had an interview with its chief promoter, Mr. Tomes, a name worthily honoured as a scientific Dentist. I hope, like myself, he was afflicted with mental colour blindness, and did not at that time see the mischievous tendencies of this Bill. If otherwise, not even the glory of having received two public testimonials will save his high reputation from the blame of having inflicted a GREAT injury upon some of the best men in his own profession. My amiable rival, the president of the Odontological Society, pointing his remarks straight at this Association, has thrown the gauntlet of defiance down by asserting that “they who had the power to carry the Dentists Act have also the power to maintain it.” On behalf of this Association I reply:

“Thrice is he armed who has his quarrel just;
And he but naked, though locked up in steel,
Whose conscience by injustice is corrupted.”

It does not quite accord with my ideas of brotherly fairness to indulge in terms of general complaint without delivering a bill of indictment, and if possible suggesting some remedy which might help to heal any of the sores from which Fellows of this Association are smarting. I will, therefore, in my individual capacity, say candidly what course I think it would be wise to pursue in order to repel the serious charge which may now be brought against Dentists of being the first to sow the seed of discord, and of unnecessarily tearing a useful branch from the glorious old tree of medical science, and that too after its roots had been pruned, and just when its branches were about to be trimmed and gathered into harmonious unity by the conjoint scheme.

Those who have done this and assisted to do this can but make amends by retracing their steps. I would, therefore, suggest that the worst clauses of the Dentists Act should be repealed, and that only enough of it should remain to authorise Dentists who were in practice prior to August 1st, 1879, and such others as are not yet ripe for medical registration. All qualified practitioners now on the Dental Register, I would carry as fast as I could to the Medical Register, and for the future adopt the scheme which has been suggested by my son, Mr. W. Cattlin, for the benefit of all specialists in any branch of either medicine or surgery. Should any of the "qualified" desire to remain on the Dental Register to die out by effluxion of time with the "unqualified," I would leave them alone in their glory, and keep them warm under the very "coping stone" of reform of which my friendly rival is so proud, until the dream I mentioned to you is fully realised. It will, I am sure, be the pride of our Association to promote any good object, whether originated by ourselves or not; and especially to hold out the right hand of fellowship to those who, though differing with us in opinion on minor matters, may show a readiness to work with us for the general good. I thank you for the attentive manner in which you have listened to my remarks, which, on account of urgency, have been confined almost entirely to the politics of our profession. Even should the civil war which has begun last the whole of my presidency, rest assured that the scientific department of the Society shall not be neglected.

THE ODONTO-CHIRURGICAL SOCIETY.

ORDINARY MEETING, FEBRUARY 12TH, 1880.

WALTER CAMPBELL, Esq., L.D.S., President, in the Chair.

THE minutes of the previous meeting having been read and approved,

Messrs. James Macintosh and Richard Cobden Macintosh were balloted for and duly elected members of the Society.

Mr. John Alexander Gordon, Inverness, was proposed for membership by Mr. MACLEOD, seconded by Mr. HEPBURN.

The PRESIDENT said—My suggesting the subject of irregularities of the teeth for this evening's discussion is not that I have anything new to offer, but because I want more light. I have no doubt others will be as glad as I am to give and to receive. Showing to each other the methods adopted in treating those complicated cases of irregularity which from time to time are brought before us, cannot but be a help to all. In preference to each exhibiting his own cases separately, I would suggest that we group the irregularities into classes and consider them *seriatim*. 1st. Upper incisors locked inside the lower incisors. 2nd. Upper incisors projecting beyond their normal position. 3rd. Oblique teeth, and then those more complicated cases. I may safely say that fifteen or twenty years ago I would have more readily taken in hand a complicated case of irregularity than now. I think that I have learned something from my experience in regulating teeth. In any case at all complicated I am now rather inclined to exaggerate than underrate the cost before beginning. I do not so much mean the cost from a money point of view—although this is by no means an unimportant element—but the loss or damage which the teeth may sustain consequent upon the wearing of mechanical appliances in a prolonged operation. I have known in some cases much evil result from the protracted treatment. In the beginning of this week I was filling teeth for an American lady, who told me she had had a great deal done for her teeth when a girl. She had worn "metal plates with all kinds of bands for months and months, and after all the teeth went right away back to their places again." This is a model of her mouth, showing considerable irregularity; a good many teeth out, and those left are in anything but a good condition. This lady, who is still young, was treated by a gentleman of some reputation in New York. Nature will do a great deal if you give her space to work; teeth incline to take their normal places if these are not preoccupied.

Models of cases and appliances used were shown by many of the members, and the President, Messrs. Matthews, Hepburn, Macleod, Wilson, Macgregor, Dr. Williamson, and Mr. Finlayson, took part in the interesting and instructive discussion on the several cases which followed.

Mr. J. A. GORDON, Inverness, through Mr. Macleod, exhibited and presented to the Society's Museum two cases of cemental union of molar teeth; in both cases the union had only been detected during the operation of extraction.

Mr. WILSON exhibited and presented to the Museum a cast of a case of double harelip in a youth of eighteen years old, which he had obtained through favour of Dr. Joseph Bell, who had operated on the patient afterwards in the Royal Infirmary surgically. The case was interesting chiefly through the age of the patient, such cases being usually treated in early life. The case presented the following peculiarities dentally:—1st. The presence on each side of a tooth in the *maxillary* bone, between the permanent canine and the fissure, having all the appearance of a supernumerary lateral incisor, the central and ordinary lateral incisors being in the projecting intermaxillary bone, which had now been removed, and which he passed round for their inspection. 2ndly. The presence of the temporary canines at eighteen years, and that these were between the permanent canines and bicuspid. And lastly, that although both central incisors and permanent canines were honeycombed, the laterals (both intermaxillary and maxillary) had escaped it. The bicuspid were well developed. He was not aware of any case recorded in which there was a tooth between the canine and the suture (fissure), the recognised definition of a canine being that it was the tooth just behind the intermaxillary suture.

Mr. CAMPBELL exhibited a simple but excellent apparatus for rolling up gold foil.

In the absence through illness of the Curator, the Secretary called the special attention of the members to the very valuable and instructive addition to the Society's Museum, received since their last meeting, from Mr. Robert Hepburn, L.D.S., London. There were three cases, the first containing moulds (brass and plaster) for making mineral teeth, the second containing a variety of sets, partial sets, &c., of artificial teeth in bone, with human and mineral teeth, metal and vulcanite, of dates from 1795 to 1861; the third contained several models of palate cases, obturators, &c., &c. Besides these there were two cases deposited by Mr. Hepburn in the Museum, as a "loan collection," the one containing a large collection of mineral teeth and blocks, classified and arranged

according to date of manufacture, the other of four specimens showing the different stages in the production of block-work.

On the motion of the **PRESIDENT**, the Secretary was instructed to convey the thanks of the Society to Mr. Robert Hepburn.

Mr. **FINLAYSON** showed a new pattern of gag (metallic) for use in nitrous oxide cases, which he had received from Mr. Brunton, L.D.S., of Leeds. He thought it very ingenious and simple.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

ORDINARY MEETING, 9TH FEBRUARY, 1880.

ROBERT HALL WOODHOUSE, Esq., M.B.C.S., L.D.S., President, in the Chair.

THE minutes of the preceding meeting were read and confirmed.

Mr. R. D. Ashby was balloted for and unanimously elected a member of the Society.

Mr. F. R. Pedley exhibited a model of a lower jaw with a tumour, epulis, and mentioned how for a moment he had mistaken a sarcoma of the antrum for an abscess depending on a tooth. He also mentioned two cases of epithelioma which had recently come under his notice. Mr. J. B. Magor (L.D.S. Eng.) also mentioned a similar case recently in the Hospital.

Casual communications were also brought forward by the President, Messrs. Curnock and Bradshaw (for Mr. Wonfor).

Mr. Rees Price then read his communication, entitled "Notes on the so-called Riggs' Disease."

MR. PRESIDENT AND GENTLEMEN,—I have the pleasure to bring to your notice to-night the so-called Riggs' disease.

It is one of frequent occurrence, upon which there has been considerable discussion, and one about which our knowledge is by no means precise, there being considerable difference of opinion, amongst Dental surgeons as to its symptoms, cause, and treatment. In both the standard works on Dental surgery in this country the so-called Riggs' disease, as such, is nowhere mentioned, and it is only by careful reading we find some of its conditions described by Salter in his chapter on "Affections of the Gums," under the heading of False

Scurvy, and by Tomes under the title of Absorption of the Alveoli.

I may premise my information has been derived for the most part from American literature, from the papers of Dr. G. A. Mills, of Baltimore, U. S., in vol. xix of the 'Cosmos,' from other papers and reports of discussions in this journal; and also from the 'Transactions' of the Odontological Society of Great Britain for 1877—78.

Diagnosis.—Dr. Mills, of Baltimore, classes the so-called Riggs' disease in three stages.

In the first stage there is a slight deposition of salivary calculus, soft and yellow in colour, round the necks of the teeth, slight inflammation of the soft tissues being sometimes present. This may be seen in children of two years of age. At a greater age the tartar becomes more dense in structure; it is seen more frequently on the labial, cervical, and proximate portions of the lower incisors, more frequently on the latter. This phase of the disease is accompanied with considerable congestion of the soft tissues, causing them to bleed at very little cause. Tartar is also found between the bicuspid under the gum, giving this a red or purplish colour.

In the second stage the salivary calculus spreads upwards towards the apices of the fangs, causing in many cases the soft tissues to recede as the disease becomes more acute, the thin edges of the alveolus become involved, the periosteum is becoming absorbed and destroyed, and from the breaking down of these structures there is a discharge of pus, gradually increasing as the disease progresses. The pus at first is only apparent on pressing the margins of the gums, causing its exudation. Eventually the teeth become loosened in their sockets.

The proximate and labial sides of the inferior incisors and bicuspid and the lingual sides of the inferior molars are more particularly involved, the buccal surfaces being frequently unaffected. In other cases the lingual surfaces of the inferior incisor are affected. It is the same with the upper teeth; the palatal fangs are more commonly attacked. One would have thought, judging from the position of the parotid gland, the labial surfaces of the upper molars would be more frequently the seat of this disease.

As might be expected, the salivary calculus deposited is not very extensive, since this disease is present, more frequently some observers think, in the mouths of those who are usually termed cleanly in the use of the brush. But with large accumulations of tartar Dr. Coffin thinks loosening of the teeth and discharge of pus only a question of time as regards colour and chemical composition, and structure

tartar deposited in this disease is in no way different from ordinary tartar. Mr. Oakley Coles says it is deposited in nodules on the fangs of the teeth, and in this view Mr. Rogers agrees, while other observers tell us that it appears as a thin, hard incrustation often only seen under the margin of the gum.

But, again, there are many Dental surgeons who incline to the belief that, as Mr. Charles Tomes has put it, "the presence of tartar has no more than an accidental connection with the disease." He states he has seen cases where the disease was thoroughly well marked, but no tartar was present; and when present, it is "often situated some distance above the site of active destruction of the alveoli."

Dr. Mills also writes: "There is an expression of this disease which is peculiar, as the deposit is not apparent; it is generally associated with finely organised teeth. It is indicated by some recession of the soft tissues. When the gums are pressed upon by the finger or thumb pus will exude." And amongst others, Dr. Rehivinkel, at a meeting of the American Dental Association, stated his belief that "this disease does exist in the cleanest of mouths, independently of foreign deposits."

In Riggs' disease commonly only a few teeth are involved, and it commences more generally in the lower maxilla.

The course of the disease is attended with more or less pain on pressure of the teeth and soreness of the gums. In its acute forms it is sometimes accompanied with severe constitutional disturbance. Facial neuralgia is frequently a symptom, and Dr. Mills thinks that in many cases where we have been unable to find any cause for this, it lies in the presence of Riggs' disease in perhaps only one or two teeth. We find chronic dyspepsia, lassitude, loss of spirits, want of appetite, and general ill health commonly indicated.

Mr. Salter writes of false scurvy, "In this malady there is a thickening and protrusion of the gums generally, especially along the edge. The gums are very vascular and liable to bleed from very slight friction. Tartar is apt to accumulate especially in rings and ridges out of sight, beneath the edge of the gums." "The gum, the subjacent fibrous tissue, and the periosteum of the alveoli are so continuous in structure, that they suffer together in this condition, and where the malady has been of long duration the sockets become less rigid around the tooth fangs, the edges of the bone become absorbed, and the teeth loosened. In some cases which are acute this secretion is certainly purulent."

Mr. Tomes under "Absorption of the Alveoli" states that there "is a thickening and rounding of the edge of the gum,

which ceases to be closely adherent to the neck of the tooth. In this sulcus between the neck of the tooth and the free edge of the gum there is generally a little pus, and almost always a thin ring of hard, dark tartar, invisible unless the gum is forced away from the tooth. As the disease progresses the tooth becomes detached from the soft parts to a considerable depth. At this stage there is usually a considerable amount of discharge."

I think you will see considerable analogy between these descriptions and that of the so-called Riggs' disease.

Dr. Mills classes in his third stage those conditions which arise from rheumatic tendencies, from a strumous diathesis, senility. And Mr. Tomes in his chapter on "Inflammation of the Alveolar Periosteum" states, we may have discharges of pus due to this; and also in patients under the influence of mercury. These must be distinguished from the so-called Riggs' disease.

Cause.—You will gather from what I have already said that upon this point Dental surgeons are by no means unanimous. Many of them, especially in the United States, with Dr. Field and Dr. Coffin in this country, think that the so-called Riggs' disease is purely local, having its origin in the deposition of salivary calculus, and due to want of cleanliness and neglect; its course being materially influenced by the condition of the patient.* But Mr. Oakley Coles in the discussion at the Odontological Society stated his experience pointed to the belief that this disease "is most frequent amongst men subject to great mental strain, engineers, physicians, barristers. And amongst women it is most prevalent after an exhausting illness, after frequently recurring pregnancies, and also associated with excessive menstrual flow." And in this Mr. Salter ("False Scurvy") also concurs. In other words, its presence is due to impaired nutrition; a local manifestation of general constitutional condition. We have here two very distinctive views. With the latter the tartar, if present, might have an influence on the course of the disease, but no hand in its origin. And though its removal would possibly have a beneficial effect, the treatment would have to be mainly constitutional. With the other view tartar is the primary exciting cause; remove this and treat the mouth, and there is great change for the better in the patient, and probably cure. There can be no doubt that in the majority of cases salivary calculus is present, and the balance of opinion inclines to the belief that this is more than accidental, and as far as I have been able to ascertain

* Mr. Rogers tells me he has seen it in a large number of Anglo-Indians, who, owing to the climate, neglect their teeth.

no well-marked case of absence of tartar has been established. You will probably agree with Tomes and Salter that "the causes and pathology of this malady are neither constant nor always intelligible." I have stated the present views of this disease at some length, hoping thereby to excite your interest in it, and trusting that it may be the endeavour of some of us in the future, by our experience and observation to clear up the obscurities which beset this question.

Treatment.—The only and the essential point in the treatment—and one which Dr. Riggs originated—is the thorough removal of all the diseased material, not only the tartar on the fangs, but of the necrosed alveolus. Upon this depends the cure. Where failure has resulted from the use of Riggs' instruments it is claimed that thoroughness has not been used—a matter which, to say the least of it, is very difficult to decide. Dr. Atkinson and Dr. Mills recommend that, after the systematic removal of necrosed material the exposed fangs should be polished with pumice and tape or the dental engine. Then the sulcus between the soft tissue and teeth should be well syringed with Acid. Sulph. Arom., using an abscess syringe with which you are all familiar. The patient should be directed to rinse the mouth daily with salt and water, or if there be tenderness with tincture of myrrh. Dr. Coffin freely applies carbolic acid round the teeth and under the edges of the gums by using a thin, pointed stick of wood, repeating this once or twice weekly, also painting the gums with iodine. Some considerable quantity of dark blood and matter comes away, causing some pain to the patient. But as this is done previously to the use of Riggs' instruments, he believes thereby the patient is prepared for the still greater pain which attends the removal of the tartar. Dr. Coffin tells me successful treatment cannot be anticipated over fifty years of age.

Dr. Riggs claims success in 90 per cent. of his cases, and though it is only by considerable experience we could hope to attain this measure, we must ever remember that any permanent result depends entirely on the thorough removal of all necrosed alveolus; no half measures will be satisfactory; relief may perhaps be afforded for a time. If we wish to set up healthy action and conditions, we must completely take away all unhealthy, and probably some healthy, tissue.

In the discussion which followed, the President, Messrs. W. A. Turner, Howarth, Alexander, Marcus Davis, Robbins, C. B. Mason, and Bradshaw, took part.

THE DENTAL STUDENTS' ASSOCIATION OF GLASGOW
(ANDERSON'S COLLEGE).

To the Editor of the 'British Journal of Dental Science.'

SIR,—Enclosed I beg to forward copy of the Rules of the Dental Students' Association of Glasgow, which has recently been formed.

The first ordinary meeting was held on Wednesday evening, 21st January, J. Crooks Morison, Esq., L.D.S., President, in the chair.

If you have space in your valuable Journal to notice the formation of this Association you would oblige,

Yours, &c., WILLIAM LANG, *Sec.*

OFFICERS.

Hon. President.—J. Rankin Brownlie, Esq., L.D.S.Eng.

President.—J. Crooks Morison, Esq., L.D.S.Eng.

Vice-Presidents.—Mr. R. Thomson and Mr. D. R. Cameron.

Treasurer.—Mr. B. Sutherland, 108, Renfield Street.

Secretary.—Mr. William Lang, 22, Dundas Street.

Council.—Messrs. James Cameron, William Bryden, Henry Geercke, William F. Martin, William Carruthers, John Liddle, R. M. Wills, and James Cumming.

Librarian.—Mr. James Cameron.

Curator.—Mr. William F. Martin.

RULES.

Constitution.

1.—That the Society be called the "DENTAL STUDENTS' ASSOCIATION OF GLASGOW."

2.—That the object of the Association be the consideration of matters generally and specially appertaining to Dentistry.

Management.

3.—That the affairs of the Association be managed by a Council, consisting of a President, two Vice-Presidents, Treasurer, Secretary, and seven other Members, five to form a quorum.

4.—That the president be a Dental practitioner who has obtained the diploma of L.D.S.

5.—That the Vice-Presidents be chosen from the past students, with or without qualification, and take the chair alternately in alphabetical order.

6.—That in the absence of the President or Vice-Presidents the Treasurer take the chair.

7.—That the Treasurer shall hold money accruing from

the Subscriptions of the Members or other sources; and shall pay from them all outstanding debts of the Association (after they have been submitted to the Council), and shall keep a correct account of all payments and receipts.

8.—That the Secretary shall attend all the meetings, and take minutes of all the proceedings, which minutes may be inspected by any Member on application to the Secretary.

9.—That the term of office shall be one year, and at the expiry of that period office-bearers shall be eligible for re election.

10.—That the Council shall prepare a report of the general and financial state of the Association, and lay it before the Members at the Annual General Meetings.

11.—That two Members from the body of the Association shall be appointed as Auditors, to examine and approve its accounts for the Annual Report in January.

12.—That the Council shall have power to fill such vacancies in the various offices as may from time to time occur, subject to the approval of the next General Meeting.

13.—That the Council shall have power to make such new bye-laws as may from time to time become necessary, such bye-laws, however, to be submitted for the approval of the Association at the next Annual General Meeting.

14.—That no resolution concerning the affairs of the Association or involving alteration of the Laws can be proposed at a General Meeting, unless at least seven days' notice has been given, and the resolution read at the previous Ordinary Meeting.

Members.

15.—That any gentleman wishing to become a Member must be proposed and seconded at one meeting, and be balloted for at the next; one black ball in five to exclude.

16.—That a copy of the Rules be presented to every Member on his election.

17.—That the Staff of the Hospital and Lecturers of the School be *ex-officio* Honorary Members.

18.—That the entrance fee for Ordinary Members be Five Shillings, and Five Shillings be the Annual Subscription, payable in January of each year.

19.—That old qualified students be invited by the Council to become Honorary Members, and that Members, on gaining the diploma of Licentiate in Dental Surgery, have the option of remaining Ordinary Members.

20.—That should the necessity arise for the expulsion of any Member a Special General Meeting shall be called

by the Council at the request of not fewer than three Members, at which not less than two thirds of the Ordinary Members shall be present, and two thirds of such meeting shall vote; the offending Member to get special notice to be present; one black ball in five to evict.

Meetings.

21.—That an Ordinary Meeting be held on the second Wednesday in every month from October to May inclusive; the chair to be taken at 8.15 o'clock p.m.; and that the Annual Meeting for the election of office-bearers, and other business, be held in January of each year.

22.—That the following shall be the order of business at the ordinary Meetings:

1. The chair to be taken.
2. The minutes of the previous Meeting to be read and confirmed.
3. Members proposed at the previous meeting to be balloted for.
4. New Members proposed.
5. Visitors announced.
6. Miscellaneous business transacted.
7. Paper of the evening read.
8. Paper of the evening discussed.
9. Business of the next meeting announced.
10. Meeting adjourned.

Visitors.

23.—That every Member shall have the power of introducing one visitor, not being a student of the Hospital or School, to the evening meeting.

24.—That visitors shall be allowed to take part in the discussion of the papers and clinical cases, but shall have no voice in the business of the Association.

Papers.

25.—That no paper shall be read before the Association unless seven days' previous notice has been given to the Secretary.

26.—That if the author desires it the Secretary shall read his paper at the Ordinary Meeting of the Association.

27.—That a copy of all papers read at the Meeting be given to the Association.

28.—That any Member of the Association having given notice of his intention to read a paper, and failing on the appointed day to produce such paper, shall be subject to a fine of 2s. 6d., unless illness or some other satisfactory cause

be named in writing to the Secretary for the information of the Council three days preceding the Meeting.

29.—The Council purpose offering a Prize at the end of the Winter Session for the best paper read before the Society in the forthcoming session, under the following conditions :

1. That no Member possessing a medical or surgical degree or diploma shall be allowed to compete.

2. That in the event of there being more than six papers the Council shall have powers to appoint extra Meetings or otherwise arrange as it may think fit.

3. That two Members of the hospital staff be selected at the Annual General Meeting, and be requested by the Members to test the merits of the several papers read and award.

Library.

30.—That the journals and books received shall be kept at the rooms of the Association for a fortnight, and then lent to Members for three nights on personal application to the Librarian.

31.—That should any Member injure any book or periodical belonging to the Association he shall be liable for the amount of injury done ; or should he remove before or retain after the appointed time any book or periodical belonging to the Association, he shall be liable to a fine of Sixpence.

Miscellanea.

THE AUDIPHONE AND ITS RELATION TO THE TEETH.

At Mr. Fletcher's ordinary scientific meeting on Thursday, February 12th, there was an unusually large attendance to witness some experiments with the audiphone, a new apparatus, which enables many who are partially or totally deaf to hear distinctly by means of the teeth.

The apparatus, as exhibited, was an oval sheet of thin birchwood veneer bent into a curve. The smaller end is held between the teeth, and the vibrations of sound in the air, being taken up by the thin plate of wood, are thereby communicated to the bones of the head through the teeth.

The apparatus was made in various sizes for the purpose of experiment. It was found that the best size for general use is about nine inches wide and twelve inches long.

It is evidently not a universal remedy for deafness, as out

of four who attended the meeting and who were partially or totally deaf, only one derived any benefit. Out of a total of seven cases which have come under Mr. Fletcher's notice four have been enabled to hear ordinary conversation with ease, one of these being totally deaf.

It was proved by experiment at the meeting that only the upper natural teeth are of any use; the slightest contact with these is sufficient, but neither the natural lower teeth nor artificial uppers are of the slightest service. It is most probable that thin, hard, vulcanised india rubber will prove far superior to wood; there is, however, a difficulty in obtaining sheets of hard rubber sufficiently large.

THE USE OF THE GUM-LANCET.

SIR,—As there is much difference at the present day upon the value of the above instrument, it would be interesting to have some scientific data to guide us in the disorders of dentition. I should be glad to hear the opinions of some of your readers upon the following points. Is the gum-lancet ever required? If useful, at what stage in the eruption of the teeth? What particular symptoms call for its use? and do any ill-effects result from its indiscriminate employment? —Yours, T. FRED. PEARSE, M.D., Bramshott, Liphook, Hants.—*Brit. Med. Journ.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following gentlemen, having undergone the necessary examinations, were admitted licentiates in Dental Surgery at a meeting of the Board of Examiners on the 23rd Feb., viz.:—

Cooksey, George, Southampton, student of the Middlesex Hospital.

Cooksey, Edward Thomas, Southampton, of the Middlesex Hospital.

Davis, M., Maida Hill West, of the Middlesex Hospital.

Gould, Frederick W., Kingston-on-Thames, of the Middlesex Hospital.

Howarth, Ambrose, Bradford, of the Middlesex Hospital.

The following were the questions on Anatomy and Physiology, and Surgery and Pathology, and on Dental Anatomy and Physiology, and Dental Surgery and Pathology, submitted to the candidates on the 19th February for the licence in Dental Surgery, viz.:—

Anatomy and Physiology.

1. By what forms of suture are the bones of the cranium united? Name these sutures and describe each form.

2. Describe the circulation of the blood, and state by what forces it is circulated.

Surgery and Pathology.

1. Mention the different forms of ulcer which are met with in the mouth, and describe briefly the characters and treatment of each.

2. What are the symptoms of periostitis? State how it may be produced, and what treatment you would adopt in its different stages.

Dental Anatomy and Physiology.

1. Describe the specimens under the microscope, Nos. 1, 2, and 3.

2. What relation have the teeth to the function of speech? Describe the effects on articulate sounds occasioned by the loss of the several teeth respectively.

3. What are the anatomical and histological peculiarities of the teeth in marsupial animals?

Dental Surgery and Pathology.

1. In what manner would the Dental surgeon employ the following substances?—arsenious acid, carbolic acid, chlorate of potass, chloride of zinc, permanganate of potass, nitrate of silver, and nitric acid.

2. Enumerate and describe the various forms of cystic disease connected with the teeth.

3. Enumerate and briefly describe the several affections of the nervous system that may arise from diseases of the teeth.

The following was the practical examination on the 20th February:—Each candidate was required, in addition to any other practical work, to make a gold filling. He must have prepared the cavity on a previous occasion, so that nothing had to be done but to insert the gold. The fillings were such as it took from half to three quarters of an hour to do. Each candidate had to bring all his own plugging instruments and materials.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At the examination of the Royal College of Surgeons, Edinburgh, held on January 27th, the Dental diploma was obtained by Frank E. Huxley, M.R.C.S

Obituary.

MR. G. W. RUTTERFORD.

It is with extreme regret we record the death of Mr. G. W. Rutterford, so well and honorably known to the Dental profession for the past twenty-five years.

From his first starting he gave his special attention and interest to the introduction of American goods, which previously were very little known in this country, and were not only excellent in themselves but incited our own makers to higher efforts which have been so successful, to the great benefit of the whole profession.

Mr. G. W. Rutterford has been in failing health for some time, and the late severe fogs brought on congestion of the lungs, the immediate cause of death, at the early age of fifty-two.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

[WE must remind our correspondents that all such communications as are to be found among the following letters would bear more weight if they had the courage to sign their real names instead of merely appending a "nom de plume." As, although the enclosure of their card is satisfactory to ourselves, it is not so to many of our readers.—ED. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have no right, nor have I any wish, to complain of your strictures on my parting address to the Odontological Society, unless where they seem to be based on a misapprehension of my meaning, doubtless owing to a want of perspicuity on my part. It certainly was not my intention to claim extended powers for the president, or to give him the position of an autocrat, in advocating a more extended tenure of office, but rather that he might be able to give a patient and full consideration to any measures proposed by

members of the council. Finality does not belong to odontological more than to other human affairs, and there will, in all probability, never be a time when some alteration may not suggest itself, especially to new members of council, and a president would ill discharge his duties if he failed to accord them a calm and courteous regard. This he can hardly do, feeling that his short tenure of office is fast drawing to a close, and that there are many and urgent matters connected with the Society's ordinary business demanding attention. Again, you seem to think that in saying that the rule making the election annual, "in view of the advancing years and growing infirmities of the first presidents," I reflected on their efficiency as presidents. Nothing could be farther from my thoughts; my meaning was simply that a longer tenure of office would have diminished their chance of coming to the presidential chair. Apart from such considerations I cannot but think a frequent change of officers in any well-established society is disadvantageous.

Yours, &c.,

EDWIN SAUNDERS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I have carefully read the speech of Mr. J. S. Turner, delivered by him in Manchester on the 24th of January last, and have been much struck with that portion which runs as follows, and is to be found on p. 137 of your issue of February 1st:—"Let me tell you that it is now nearly twelve months since, at a meeting of Dentists held in London, the representative board of the British Dental Association was appointed by the votes of over 200 persons. Since that time till now, although the board has gone on steadily with its work and used every effort to induce men to join the Association, the number of members has not yet reached 180; in other words, the profession has only advanced £190 to enable the Association to carry out the provisions of the Dental Act," which we were all given to understand the Association would do, and its first work should have been to have purged the Dentists' Register by removing those names which had no legal right there. In another part of the same speech (p. 145) we are told, "That suppose we have to enter into litigation who is to be the prosecutor?" Mr. Turner says, "I for one can answer, not the Hon. Secretary of the British Dental Association, and yet by nature of his office he is the person who at present would be looked on to act in that capacity." Allow me to ask the profession through your Journal if they are not of opinion whether the business committee of the

British Dental Association would not have done far better by appointing a solicitor in connection with their Association, and commence weeding (in a business-like manner) the Dentists' Register. But what do we find? They start a journal which will represent principally the views of those who will manage it; at the same time they have made each member of the British Dental Association pecuniarily liable for its losses, be they great or small. This certainly should not have been done without first consulting the members at a general meeting. As things now stand it is evident the enforcement of the Dentists Act (in its true meaning) is quite a secondary consideration with the Association.

I am, &c.,

A BELIEVER IN LIMITED LIABILITY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Your publishing the list of members of the Odontological Society in your last issue makes your Journal an excellent book of reference to the whole of the profession. It cannot fail to be justly appreciated. Would it be asking too much if you would publish the names of the representative board of the British Dental Association; also a list of names of its members.

I am, &c.,

A PROVINCIAL DENTIST.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Will you allow me to ask through the medium of your Journal if it is true that the British Dental Association has bought the proprietorship of the 'Dental Review,' and that they are about to undertake publishing it as the organ and mouthpiece of that Association under the management of Mr. Coleman and Dr. Walker. If it is true I cannot refrain from saying that the representative board have acted in a very arbitrary way, and that common courtesy should have prompted them to have first ascertained the true feelings of members of the Association. I for one consider that the Dental literature supplied was equal to the requirements up to the present time, and that the Association have hampered themselves with an unnecessary liability.

I am, &c.,

AN OLD PRACTITIONER.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Having made nitrous oxide for the last ten years my experience may be of use to Mr. Musgrave.

I first tried the ordinary glass flask and found them

break; next tried stone bottles and found them better than the flask, but they varied much, some standing heat better than others; then tried a flask, the lower half of which was covered with copper, but the glass broke where the copper terminated. Again I tried the *ordinary glass flask*, in this manner:—Fill the flask about two thirds full of ammonia, put it in a sand bath, the sand covering well up the side of the flask. When the ammonia is nearly all melted put it over the gas *without* the sand bath, and then it will be found to answer well. The flask I have in use now has been used in this way more than three years. I ought to add that we never quite exhaust the ammonia, but leave about half an inch in the bottom of the flask. I am, &c.,

J. ROSS WATT.

13, Euston Place, Leamington.

To the Editor of the 'British Journal of Dental Science.'

SIR,—My name appears in your report of the late meeting at Manchester; this is an error. I was *not* at the meeting. Be good enough to correct this mistake in your next issue.

Yours, &c., ROBERT BROOKHOUSE.

[We much regret the mistake, but as an authorised list was, we are informed, refused to our reporter, we were obliged to depend upon a correspondent who, although we are sure he did his best, was liable to err.—Ed. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

SIR,—Acts of Parliament are supposed to be passed for the benefit of the public at large; what protection is there in the Dentists Act for the public, if any unqualified person is allowed to fit up a shop window as a show case with artificial teeth, and with notices that teeth are extracted, stopped, scaled, &c., in every way leading the public to believe that he is qualified to perform any Dental operation? Would it not be possible to get a clause inserted in the Duke of Richmond and Gordon's Medical Bill which would prevent this, and offer more protection for the foolish people who are to be caught by these tricks?

Yours, &c.,

Z. Z.

THE ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Your list of members of the Odontological Society in this month's Journal shows a curious state of facts, which I have endeavoured to epitomise, and the following table is

the result, as far as I can make out, of a standard reached by a society supposed to represent the profession, and in arriving at this talismanic height it has taken longer than the sleep of

Yours, &c.,

RIP VAN WINKLE.

Total members	.	.	.	.	373
Honorary	.	.	.	.	17
No qualifications	.	.	.	.	73
Not registered	.	.	.	.	35
D.D.S.	.	.	.	.	21
L.D.S.I.	.	.	.	.	28
L.D.S. Ed.	.	.	.	.	4
L.D.S. Eng.	.	.	.	.	193
Deceased	.	.	.	.	2
					<hr/>
					373

Feb. 20th, 1880.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The warning and advice given in your editorial in relation to the late meeting in Manchester was not given a day too soon, and if the treatment received by some of those present from others (on the strength of a £10 10s. qualification) is an indication of what may be expected in the future, it might be better for everybody and for "the dignity of the profession" to drop the Act altogether; for the promoters of the Act may depend upon it that, if that style of conduct is to be the rule, or any attempt made to interfere with legitimate Dentists, whether in practice or as assistants beginning practice, such a resistance will arise as will make the Act a dead letter, and as matters stand at present it is a "queer business" whichever way it is looked at. I am, &c.,

W. W. D.

THE DENTAL DIPLOMA, SINE CURRICULUM.

To the Editor of the 'British Journal of Dental Science.'

SIR,—It seems a strange and unaccountable fact that so many of the Dentists of the United Kingdom, who are registered as practising Dentistry separately, should be careless and neglectful of the necessity of obtaining a qualification when we consider that the doors of Dublin, Edinburgh, and Glasgow are open to all respectable practitioners, *sine curriculum*, till August, 1881, and also that the examinations are of a practical character, and not severe for those already in practice who are fairly well-up in their profession.

A few months' steady reading by those who are well acquainted with the every-day routine of Dental practice ought to enable them, if possessed of average ability and industry, to obtain the L.D.S., which is the only guarantee to the medical profession and the public of a Dentist's competence.

It will be very annoying and galling in the future to gentlemen who have served articles to Dentistry, but who have neglected the opportunity to qualify while there is the chance, to be on the same footing with the "registered chemists' assistants," who will doubtless be leaving their own calling and starting as Dentists during the next few years.

No practitioner can be acting fairly towards himself who does not endeavour to make his position secure, and place himself beyond the reach of suspicion by obtaining a qualification. The respectable portion of the community are now being rapidly educated by the medical profession to the fact that those only who hold the Dental diploma are recognised by them as Dentists, as they argue that those who fail to obtain the L.D.S., now that the doors are open and the examining boards inclined to be liberal, must be deficient either in the surgical or the mechanical part of their profession.

I am, &c.,

L.D.S. GLASGOW.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The circular convening the meeting of Dental practitioners to be held at Manchester on the 24th of last month, stated that it is proposed to hold a *private* meeting of qualified practitioners, to *consider the advisability of forming* a Dental Association for the Midland and North-Western Counties; the objects, to promote the general interests of the profession. Now, Sir, there can be no doubt, judging from Mr. J. S. Turner's remarks and the resolutions brought forward, that an association was to be launched at that meeting, and the only parties who were to be present to assist in the ceremony were those holding the Dental licentiate degree, and had it not been for the anonymous post-cards and circulars, the numbers would have been very limited. I heard a great deal said about kind feelings, charity, and liberality. Now, I should like to know towards what section of the profession are these charitable and kind feelings to be extended? I should be inclined to think not to the "sine L.D.S." portion, for, from what I saw, there was a very great want of sincerity, judging from the fact of an American gentleman holding the D.D.S. degree being told that he was an unequalled practitioner; but surely it must have been

forgotten for the moment that one of the gentlemen forming the council was the proud recipient of the D.D.S. degree. I have no hesitation in saying that, should a similar meeting be held in another town, no practitioner from Manchester will be found so wanting in good manners. I was very gratified on reading the leading article in your Journal of February 1st, and would strongly recommend the sentiments therein expressed to the serious consideration of the Midland Counties Dental Association, for, unless they adopt a liberal policy, the Association cannot prosper. Allow me to thank you for the correct manner in which the proceedings at the above meeting was reported in your Journal, which is not so in the 'Monthly Review of Dental Surgery.'

I am, &c., WALTER J. CHENEY.

Great Ducie Street, Manchester.

To the Editor of the 'British Journal of Dental Science.'

SIR,—As the question of professional charges is being commented upon in the pages of your valuable Journal, will you kindly allow me to contribute my mite upon the subject as regards the town in which I live. It is some eight years since I began to practise Dentistry, and during the whole of that time I have endeavoured to raise the profession in the estimation of those with whom I have had to deal. On the other hand, the opposing forces (advertising, cheap work, &c., &c.) have dragged it down to a very low degree. I must here, in justice, state that there are two or three Dentists in the town who have not pandered to the taste for cheapness. As I do not think it will conduce to the benefit of the profession by publishing the prices charged (*I enclose them for your perusal*) I will content myself with simply giving the proportion in figures.

You will understand me, sir, if I say that it is very unpleasant when a patient calls to have a tooth taken out, and when about to operate, to be asked, "Well, but what is your charge?" and when answered, the reply is, "But Mr. (A., B., or C., as the case may be) only charges so much," and that is from one half to one fourth less than mine. Now, the same holds good as regards Dental work, my charges being in the rate as 5 is to 3, and sometimes as 5 is to 1½.

In the face of this it is very galling to read in your Journal that this class of Dentists remain secure on the Register, while at the same time the Dental Association will endeavour to strike me off the Register because I added to my practice that of pharmacy (not being on the Register) some seven months prior to the passing of the Dental Act.

Now, I ask, in the name of common sense, if there would be any justice, or anything worthy of such an appellation, in asking a man, after he has spent the best years of his life in the acquisition of professional knowledge, to retire from the profession for the simple reason above stated.

I enclose my card, and you are at liberty, sir, to reveal my name and address to any member of the Dental Association inaugurated at Manchester the other week.

I am, &c., DENTIST.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :
 Twelve Months (post free) . . . 14s. 0d.
 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

ANSWERS TO CORRESPONDENTS.

J. MASTERS.—You had better apply to the Medical Registrar.

Communications received from G. H. Rogers, J. Ross Watt, Alfred Hill, "Rip Van Winkle," "Dentist," T. Fletcher, Frank S. Huxley, Andrew Wilson, F. W. Stainthorpe, W. Hodgkin Hope, Edwin Saunders, "L.D.S. Glasgow," J. Hamilton Craigie, G. A. Roberts.

BOOKS AND PAPERS RECEIVED.

- 'Le Progrès Dentaire.'
- 'Die Zahntechnische Reform.'
- 'Johnston's Dental Miscellany.'
- 'Glasgow Medical Journal.'
- 'Journal of the Chemical Society.'
- 'Gazette Odontologique.'
- 'Deutsche Vierteljahrsschrift.'
- 'Transactions of the Odontological Society.'
- 'L'Odontologia.'
- 'Medical Register.'
- 'Dental Cosmos.'
- 'Lincolnshire Echo.'
- 'Missouri Dental Journal.'
- 'Paper and Print.'

British Journal of Dental Science.

No. 292. LONDON, MARCH 15, 1880. VOL. XXIII.

Dental Surgery and Medicine.

ON AFFECTIONS OF THE EAR ARISING FROM DISEASES OF THE TEETH.

By SAMUEL SEXTON, M.D.,
Surgeon to the New York Ear Dispensary and to the New York
Eye and Ear Infirmary.

[THIS paper, for which the New York Medical Society awarded the author a gold medal, was published in the last (January) number of the 'American Journal of the Medical Sciences.' It contains suggestions of great value on a subject to which too little attention has hitherto been paid. As the quarterly review in which it appeared is probably accessible to but few of our readers, we have decided to give the article in full.—ED. 'B. J. D. S.']

Some time ago the writer was so much impressed with the frequent coexistence of aural and Dental diseases in many of the patients who come to him with the former affection, that he resolved to assume the task of recording the results of any subsequent observations on the subject.

A carious tooth, which seemed to arrest the favorable progress of a case of acute *otitis media purulenta*, was the means of first attracting my attention specially to the teeth as bearing a more important relation to aural diseases than I had previously supposed; and although the thought was not entirely new to me, nor yet original, the impression thus made by a single striking case was the occasion, subsequently, of a more thorough examination being made of the mouth in all cases.

On now reviewing the records which I have since kept of some 1500 cases, I find that the teeth are more frequently the seat of disease than I at first suspected, for, of these 1500 aural cases, perhaps one third owed their origin, or

continuance, in a greater or less degree, to diseases of the teeth.

In searching the literature bearing on this subject, it is not surprising to find that the earlier writers who contributed to the otology of their day failed to attach much, if any, importance to the sympathetic relation between the teeth and ears, although Ambrose Paré (1628), who devoted comparatively a great deal of space in his work to the parts under consideration, especially to the teeth, found that in toothache the pain was soothed by applying a mixture of opium, castor, and oil of roses to the ear. This author, to obtain relief in these cases, frequently resorted to opening a vein behind the ears, or to the application of a small plaster composed of pitch and mastich to the "artery of the temple," on the side where the pain existed; his language indicates that the connection thought to exist was other than nervous. Du Verney (1683), author of the first treatise devoted to the ear, was not aware of the sympathetic nervous connection between the teeth and ears.

Even so late as the beginning of the present century the writings of Saissy and others, allude to diseases of the teeth as affecting the ears in a manner most meagre, although anomalies of the throat are spoken of as causing deafness, principally, however, as offering a mechanical obstruction to the faucial openings of the Eustachian tubes. Even Toynbee, Wilde, Triquet, and their contemporaries, failed to contribute to the knowledge of this subject in any material manner. The important work of clearing up this subject was left to the otologists of the present day, and in turning to our principal writers we now find the nervous relationship of the teeth and ears clearly recognised. The more recent works, especially those of Woakes and Cooper, give considerable space to this subject, and with regard to the physiology of the nervous relationship the treatise of Dr. Woakes establishes it more clearly than has hitherto been done.

Now that physiological research has drawn attention to the fact that vaso-motor relations create instantaneous communication between parts widely separated—as between the teeth and ears—we are enabled to make a more satisfactory diagnosis, especially as to etiology, in aural disease, and to establish a more rational system of therapeutics. Treatment based on the belief that the ear is nearly always invaded by disease extending from the throat, per the Eustachian tubes, will, it is believed, give place to methods more successful, because founded on a more rational pathology.

The phenomena whereby affections of the teeth excite

diseased action in the ears cannot be better explained than by a reference to the formula of Dr. Woakes. "The only obvious connecting link between the regions interested is the continuity of nerve-fibre. The simple continuity of sensory-motor nerves is insufficient to produce the conditions under review; we must seek yet further for the true medium by which they are brought about. This will be found in the relations of the vaso-motor nerves and the functions which it is their office to fulfil." He believes that nearly all sensory-motor nerves comprise fibres belonging to the vaso-motor system, and that these fibres run in a contrary direction to that of the cerebro-spinal nerve with which they are associated. "Thus, in speaking of a cerebro-spinal nerve, say the *vagus*, we describe it as pursuing a course *from* the medulla to the respiratory organs and the several viscera which it supplies. At the same time it must be remembered that it contains other fibrillæ in its sheath running *from* the viscera towards its nerve-centres, some of which at intervals leave the sheath and enter a ganglion of the sympathetic in their course to the general vaso-motor centre situated in the medulla oblongata, at a point which has been scarcely determined for the human subject, though it has been accurately fixed in the rabbit. These fibres are then centrepetal or afferent in their functions, conveying impressions from the tissues to the sub-centres constituted by the ganglion or to the general vaso-motor centre." These fibres communicate with the caudate cells of the ganglions they enter, and are thus brought into communication with remote parts through other nerves coming to the same ganglion. Nerves leading from the ganglion to the spinal cord follow its anterior columns, passing upwards to the primary vaso-motor centre. The same course is pursued by the fibres of this system from the general centre *downwards* along the anterior columns of the cord, and leaving it when opposite an intervertebral foramen they join a ganglion of the sympathetic, and "after similarly mingling with the caudate cells quit it to seek their several destinations on the coats of the arteries whose calibres they regulate. Further, it is to be noted that by the automatic action of the general vaso-motor centre the normal calibre or tone of the vessels is maintained." The author quoted believes that the sympathetic ganglia play the part of sub-centres, acting independently of the general centre, and "that they are also correlating organs by means of which afferent tissue impressions from one direction are reflexly referred to a totally different tract."

The action of the vaso-motor nerves on the arteries will be

better understood by bearing in mind that the middle coat of all arteries contains circularly disposed plain muscular fibres ; as the arteries become smaller the muscular element becomes more and more prominent as compared with the elastic element, until in the minute arteries the middle coat consists entirely of a series of plain muscular fibres wrapped round the elastic internal coat (Michael Foster).

Now, whether the vaso-motor mechanisms depend entirely for their action on the sympathetic system or not, and whatever may finally be regarded as their *modus operandi*, it is known that "the tone of any given vascular area may be altered positively in the direction of augmentation (constriction), or negatively in the direction of inhibition (dilation), quite independently of what is going on in other areas. The changes may be brought about (1) by stimuli applied to the spot itself, and acting either directly on the local mechanism or indirectly by reflex action through the general vaso-motor centre ; (2) by stimuli applied to some other sentient surfaces, and acting by reflex action through the general vaso-motor centre ; (3) by stimuli (chemical blood stimuli) acting directly on the general vaso-motor centre" (M. Foster). The changes in the capillary districts are passive in their nature as they (the capillaries) do not possess muscular texture. Their calibre is enlarged when the supply of arterial blood sent to them is increased, and when the quantity is lessened they are sufficiently elastic to accommodate themselves to the change. The tone of the arteries is maintained through vaso-motor influence, and an example of its withdrawal is seen in flushing, which is due to a loss of tone. During relaxation of the vessels more blood flows into them, and there is an increase of temperature. A diminution in the size of the vessels occasions a flow of blood from the part and temperature falls. "Nerve-fibres belonging to the sympathetic system are distributed largely to the blood-vessels, but their terminations have not as yet been clearly made out. By galvanic or mechanical stimulation this muscular coat may in the living artery be made to contract. During this contraction, which has the slow character belonging to contractions of all plain muscle, the calibre of the vessel is diminished. During relaxation more blood flows into the artery. Division of the cervical sympathetic of the rabbit affects the circulation on that side, the whole ear being redder than normal, its arteries being obviously dilated, its veins unusually full, innumerable minute vessels, before invisible, come into view, and the temperature may be more than one degree higher than on the other side. If the upper end of the cut nerve be now

stimulated by the interrupted current the ear again becomes pale, much paler than normal if the current be strong; the vessels diminish in size so that the smaller ones disappear, and the temperature falls. When the current ceases flushing again occurs" (M. Foster).

Although the trigeminus and eighth pair of nerves, together with the sympathetic, bring into intricate relationship the buccal and pharyngo-nasal cavities and the ears, an anatomical description of their distribution would lead me too far. It is difficult to believe that any considerable lesion of these regions can long exist without affecting the ears (and, indeed, the eyes), and even more remote regions than those mentioned are frequently brought into sympathetic relationship with these organs of special sense, as daily clinical experience proves.

Having presented this statement of the generally accepted theory of vaso-motor action, I shall now bring forward some of the diseases of the teeth that are commonly concerned in giving rise to sympathetic aural disease. The general surgery of the jaws, including the pathology of the subject, does not concern us as much as the minor diseases which are more likely to be neglected. It must here be confessed that, as a profession, our knowledge of the diseases of the teeth, gums, &c., is not what it should be. The teeth, which were once regarded as lifeless objects, are still treated by the profession in general without a true regard to the influence they exercise over the health of the individual.

It was not until the beginning of this century, when John Hunter, Fox, and others, laid the foundation of their true pathology, that the teeth were treated on a scientific basis. Within the present decade Wedl and others have brought the pathology of the teeth up to the standard of modern requirements. The apathy which has always existed on the part of the profession regarding this subject has left the treatment of diseases of the teeth in the hands of men who have occupied themselves almost exclusively with its mechanical department, and who, as a rule, have but little to do with the teeth in a medical aspect. It is greatly to be regretted that a field of such interest has been abandoned by the profession. Many affections of the teeth lead to most grave and intractable diseases of the regions presided over by the sympathetic system, and these are often suffered to be long unattended before they are brought under appropriate management. Thus an ear, eye, or throat difficulty may become firmly seated, or a neuralgia which renders life intolerable may be established. When I look back at the operation for the removal of Meckel's ganglion, which I have twice witnessed, for the relief of facial neuralgia, it occurs to me

that the most simple of remedies could have controlled that disease when it was first induced, as it probably was in these instances, by a carious tooth.

The teeth are a prolific source of nervous diseases for sufficient reasons; their development and decay, their usage by improper foods and drinks, the unhealthiness of the saliva, the lack of cleanliness, &c., are all sources of greater or less irritation. The mouth, moreover, being richly supplied with nerves and bloodvessels, which are distributed to its extensive mucous membrane, is highly sensitive to all of these influences.

The ear begins to suffer from sympathetic dental irritation from the time of the appearance of the two central incisors of the lower jaw, which are cut at about the seventh month, and may continue to do so until the completion of the first dentition, which is usually about the end of the second year. The gums may become alarmingly swollen during this eruption of the milk teeth, and in some rare instances periostitis of the jaw occurs. Wedl says that, according to Trousseau, "the swelling of the gums is not an arching produced by the teeth beneath, but is rather due to inflammation; and he adduces in support of his assertion the fact that this turgescence occurs and disappears again without the emergence of the tooth through the gum; direct experiment also confirms this view, for, if a needle be inserted into the swollen gum, it is found to be three or four millimètres in thickness from the surface down to the tooth. The painful swelling of the gum and the toothache give rise to various symptoms, particularly to flushing of the cheeks, salivation, fever, agitation, and likewise to a few nervous symptoms." Catarrhal affections of the buccal cavity and of the vaso-pharynx are at this period of common occurrence and increase the dental irritation.

Caries of the milk teeth is frequently met with, and a very considerable number of children have toothache from this cause. The irritation in the infantile mouth from the causes above enumerated creates more or less sympathetic hyperæmia of the ears before attention is directed to that region by earache. It is, therefore, generally found that a purulent otitis media has been established before the physician is called, and not unfrequently great deafness already exists, the amount being difficult to estimate at this age, but in some cases it is sufficient to establish deaf-mutism; indeed, the latter frequently occurs from non-purulent affections, which produce changes in the conductive apparatus that are unrecognisable by an examination per the external meatus. I think but few aural catarrhs of infancy have not been

preceded by the hyperæmia of first dentition. The instances of grave cerebral irritation from cutting the milk teeth are quite common and tend to complicate the diagnosis of acute aural disease.

Second dentition commences about the sixth or seventh year, the first molars of the permanent set inaugurating the shedding of the milk teeth, which, with their alveoli, suffer reabsorption. Second dentition is concluded (with the exception of the wisdom teeth) by the cutting of the second permanent molars at the twelfth or thirteenth year.

(To be continued.)

Mechanical Dentistry.

GASOLINE FURNACES.

[We reprint the following from the 'English Mechanic and World of Science' for Nov. 7th, 1879, thinking it may prove of use to country Dentists who have not the advantage of gas.]

I have adopted this title because it is one under which the questions and replies have been given. I should, however, prefer to call it the "air-gas furnace," because all air gas is not made from gasoline. Before proceeding further, and so that my remarks may not be misunderstood, may I say that I have never seen Mr. T. Fletcher, of Warrington, whose gas apparatus in all its forms is my greatest delight, and not the least so is the petroleum gas furnace which he has brought out recently. My experience of Fletcher's apparatus is this, viz. that you can always rely on it doing *all* that he says it will do; and I say this after having bought most of his gas burners and gas furnaces, relying only on the advertisement. It would be a good thing if you could always place the same reliance on advertisements. The great merit of the benzoline or petroleum air-gas furnace is this, viz. that you are practically, if not absolutely, free from sulphur. Try with six pounds of copper with a gas furnace (not air-gas), and see the film of unmelted copper on the top. Try the air-gas furnace (petroleum) and you will see the copper free-boiling and pouring freely. Some of your querists ask, is the mixture explosive? I answer yes; and

I think all should be warned against the use of air gas without proper safety apparatus of some kind or another. At the same time, however, I should add that I think the danger has been by some overstated; nevertheless, it is better to start with the idea that at times, and under certain circumstances (especially the reversal of the blast, *i.e.* drawing back the flame), an explosion is likely to occur. Fletcher sends out his air-gas generator with a safety apparatus. In his reply (p. 72), he says they are safe, and you can rely on his statement. Now, a few words as to making the gas. It is effected by passing the air downwards into the petroleum, and then allowing it to be in a chamber containing countless wicks, which dip into the petroleum and are kept moist by the same action as causes oil to run up a wick in a lamp. Thus the air gets saturated with the petroleum, and makes a gas of which the constituent parts will be oxygen, nitrogen, carbon, and hydrogen. "L.D.C." asks if the oil or "petroleum" has to be heated? I answer "No." It is absolutely unnecessary. I believe in the future of air gas for many purposes, *e.g.* for heating tools or hardening and tempering purposes, especially when you get a carbon flame as you do from petroleum. I have tried heating steel, and a practical tool maker pronounced the result splendid, so equable a heat, so clean. I tried an experiment some time since with a Fletcher long-tube burner, and I heated with it an iron tube three inches in diameter so hot that a piece of half-inch steel placed within the tube was heated to a good hardening heat in two minutes for over nine inches in length. You will understand that no flame touched the steel, which was held in the centre of the three-inch tube, outside which the gas flame with blast was playing. In about a month I shall have a furnace in full operation, and if any of your readers like to advertise their addresses I shall be glad to show the furnace and its working.—B. P. A., residing in London.

EMERY WHEELS.

For some time I have wanted to draw your attention to the emery wheels manufactured by the Tanite Company, of 9, St. Andrew's Street, Holborn Viaduct, which I find very useful in the small sizes for sharpening tools and instruments. I think that if they were kept in stock by the Dental Depôts they would find a sale, for as soon as they were known they would be appreciated.—WM. MARSH.

Hospital Reports and Case-Book.

DENTAL HOSPITAL OF LONDON.

THE annual meeting of the governors of this hospital took place on Thursday evening, the 11th March, at Leicester Square, Mr. Edwin Saunders, in the unavoidable absence of the Treasurer, occupying the chair. The Secretary, Captain Scoons, was likewise unable to be present, in consequence of his having met with an accident in alighting from a train on the previous day.

Mr. OAKLEY COLES, having undertaken to discharge the secretarial duties, read the minutes of the previous annual meeting, which were confirmed. He then read the twenty-second annual report of the managing committee, which announced that the year ending December 31st had been one of prosperity. A handsome donation of £50, made by Mr. Noel Whiting, junior, had been invested in the Government funds. The amount received from the Metropolitan Hospital Fund was £67 0s. 7d., and from the Hospital Saturday Fund £23 8s. 8d. The donations of life governors during the year amounted to £220 10s. 0d., as against £147 in 1878. The annual subscriptions amounted to £504 13s. 0d., as against £482 7s. 0d. in 1878, while the general donations amounted to £219 18s. 3d., as against £235 8s. 8d. in the preceding year. The committee considered that the gradual increase in the annual subscriptions during the last three years was a very satisfactory sign, as those must always be considered the principal support of the hospital. The committee had invested the further sum of £147 in consols, making the total of funded property of the hospital £974 7s. 6d. The committee much regretted having lost the valuable services of Mr. Lawrence Read, who had been Dental house-surgeon for two years, and resigned on 16th June last. He had discharged his duties with great ability, and the committee felt that he was entitled to their lasting gratitude. Mr. McCall, the assistant Dental house-surgeon, was appointed his successor, but he only held the appointment five months, during which period he acquitted himself with great credit. Mr. J. B. Magor had been appointed to the office, and the honours he obtained at the school attached to the hospital warranted the committee in believing that the post was never more ably filled than it would be by him. Mr. R. G. Bradshaw had been appointed assistant Dental

house-surgeon. In accordance with the laws of the hospital, Messrs. Fox, Woolfryes, and Normansell retired from the Committee of Management, and to fill the vacancies the committee recommended Messrs. G. Penson, A. J. Woodhouse, and Noel Whiting, junior. In conclusion, the committee returned thanks to the medical officers for their continued services, and to the auditors for their care and trouble in auditing the accounts.

The balance sheet showed that the receipts for the year, including £158 12s. 3d. in hand on January 1st, 1879, had been £1380 15s. Od., while the expenditure for the year had been £1145 5s. 6d., a balance of £235 8s. 7d. remaining in hand. The amount of the investments in stock was £996 15s. 3d.

Mr. Coles next read the report of the medical committee. The report stated that the following services had been rendered to the various applicants requiring Dental aid for the relief of pain and the preservation of teeth.

Teeth preserved by filling :

With Gold.....	1091
„ White Foil	258
„ Plastic material	5008
Irregularities of Teeth treated Surgically and Mechanically .	420
Miscellaneous Cases	2781
Advice and Prescription Cases	1006
Operations { Children under 14	7506
{ Adults.....	8900
{ Under Anæsthetics	3274
	<hr/>
	29,242

During the past few years the number of patients had steadily increased, 5000 additional cases having been treated in 1877; and in all probability there would be an increase from year to year that would tax the resources of the hospital and staff to the utmost. The medical staff were much gratified to report that the gentlemen who had successfully filled the offices of house-surgeon and assistant house-surgeon had given every satisfaction to the committee. The present house-surgeon, Mr. J. B. Magor, was a most efficient officer, and the assistant house-surgeon, Mr. B. G. Bradshaw, was thoroughly well qualified for his position. The dressers acted daily under their respective surgeons, and obtained special practice in the anæsthetic room according to seniority and ability. The staff also acknowledged the services of the anæsthetists, Messrs. Clover, Braine and Bailey. The services of the dean, Mr. T. F. Underwood, were highly esteemed, as the management of the students was entirely in his hands, and the medical committee were glad to be able

to testify that the progress, regular attendance, and conduct of the students had been satisfactory. The appointments of demonstrator and medical tutor, made by the medical staff at their own cost, were of great benefit to the students and the hospital. In conclusion, the medical officers reminded the Committee of Management that the increasing number of operations entailed increased expenses, and the necessity of upholding the hospital in a state of the highest efficiency. They expressed their thanks to the managing committee for the prompt supply of means to administer the objects of the institution.

The CHAIRMAN said that he thought the reports would meet with a warm reception from the meeting. They gave a very satisfactory account of the work of the hospital, for which he believed there was still room for further expansion. They were fortunate in having premises with a large frontage to a northern aspect, as that made many good lights available for operating chairs. It was a very gratifying circumstance that the medical committee expressed great satisfaction with the house-surgeons and the medical officers generally, as that was a prime essential in the success of an institution such as theirs. With good secretaries and good medical officers they could scarcely fail to meet with that support from the public which such an institution would naturally command. On the whole, looking back at the period of depression in trade which had been passed through, he thought they had every reason to congratulate themselves upon their financial condition. Further efforts were to be made in future, and there was no reason why there should not be a larger share of public support than they had as yet enjoyed. The annual subscriptions had increased by £22 0s. 6d. during the past year, and considering the depression which had existed he thought that must be regarded as being very satisfactory; but he trusted that on the next occasion they would be able to report a very much larger increase. The increase of life donations had been £73 10s. 0d. There was a decrease in the amount received from the Sunday and Saturday funds of £7 0s. 9d., and in the amount of the donations under ten guineas of £22 11s. 2d.; making altogether a decrease to be deducted from that increment of £22 11s. 2d., so that the real increase, instead of being £95 16s. 0d., was £73 4s. 10d. There was nothing in that circumstance to discourage them, and it was reasonably hoped that the further appeals which were being made to the public would result in a more prosperous condition in the future.

Mr. HILLS considered the reports were most satisfactory.

The way they were increasing was very encouraging, and he was surprised to see the number of patients they had, and the number of operations which were performed. He had great pleasure in moving:—"That the report as read, be adopted, printed and circulated, with the statement of accounts of the past year."

Mr. UNDERWOOD seconded the motion, and it was carried unanimously.

The CHAIRMAN explained that under one of the bye-laws three members of the managing committee retired from office, and were not eligible that year for re-election.

Mr. PARKINSON proposed:—"That the following gentlemen, nominated by the Committee of Management, viz., Messrs. G. Penson, N. Whiting, junr., and A. J. Woodhouse, be elected members of the Committee of Management, in the place of Messrs. C. J. Fox, F. Normansell, and H. J. Woolfryes." They were very sorry to lose the services of the gentlemen who were retiring, as they had been working for the institution a great many years; but the time came when everybody in rotation must retire. He thought that a better selection than the gentlemen proposed as successors could not be made.

The resolution was seconded, and unanimously agreed to.

Messrs. G. C. Ash and Geo. B. Twining were re-elected auditors.

A vote of thanks to the Treasurer, the Committee of Management and the medical officers, was passed unanimously.

The meeting was then made special, for the purpose of confirming certain alterations of rules which had been already approved by the Committee of Management.

Mr. OAKLEY COLES explained that the proposed alterations were as follows:—Rule 1. That after the words "under the direction of," the words "a president, vice-president, patrons, and patronesses," should be inserted. Rule 5. That after the word "for," "four" should be substituted for "three." Rule 13. That after the word "securities," the words "or freehold ground rents," should be added. Rule 37. A similar alteration.

The alterations were unanimously agreed to, and a vote of thanks to the Chairman having been passed, the meeting separated.

DENTAL HOSPITAL OF EXETER.

A meeting of the subscribers and friends of this institution, which was recently formed in the city, was held at the Guildhall, yesterday, to receive from the Provisional Committee and, if approved, pass the rules and constitution of the hospital, and to elect the President, Committee of Management, and medical staff. The Right Worshipful the Mayor (W. H. Ellis, Esq.) presided, and amongst those present were the Right Rev. the Lord Bishop of the Diocese and Mrs. Temple, Mrs. Sanders, the Sheriff (S. Jones, Esq.), Rev. J. G. Davis, Rev. W. G. Mallett, Rev. J. Ingle, Major Wyatt-Edgell, Capt. Halford Thompson, Messrs. E. A. Sanders, W. Barnes, Goodman, H. R. Courtenay, H. D. Thomas, H. Mallett, C. Spence Bate, F. R. S. (Plymouth), G. T. Pasmore, W. Budd, W. Clapp, A. Cummings, A. Mackey, S. Bevan Fox, Geo. Colson, W. Mortimer, jun., C. N. King, Geo. Ross, J. T. Browne-Mason, H. B. Mason, J. Sergisson, Passmore, &c.

The MAYOR, in opening the proceedings, said that they were met for the purpose of establishing in Exeter a Dental Hospital, and he thought they must all admit that it was advisable to have such an institution. Few escaped altogether the torture of toothache, and they must all know how terrible it was to bear. He believed it was as Shakespeare said—

“For there was never yet philosopher
That could endure the toothache patiently.”

The old plan of removing the toothache was by extraction, usually performed by the barber, and, if they would forgive him the pun, in a most barbarous manner. Even in his own day an instrument was used which was, to his mind, like a little crowbar. It was called, technically, the key, or corkscrew, and by it the tooth was literally dragged out; and, in so doing, it was not an uncommon thing for the jaw to be broken. Extraction now-a-days, he believed, was the last thing that a skilful dentist would resort to. Indeed, it was not to his interest to get rid of a tooth so soon. His plan was rather to stop decay and fill up the teeth. But the process extracted very considerable fees from the pockets, which poor people were not able to pay. He was sure all would feel that it was important that the poor should have a place where they could go and have proper attention, and not only have their teeth extracted or stopped, or even have new teeth put in when the old ones were thoroughly

done for. They could not expect mechanics, or servants, to attend to their duties properly when writhing in the agony of toothache. He looked upon this as one of the curses of civilisation, and therefore considered that civilisation should provide the means of getting rid of it. He was very glad to see such an institution started. Similar institutions had been in existence in London and elsewhere for upwards of a quarter-of-a-century, and at Plymouth, he believed, there had been one established for seventeen years. The idea of a similar institution for Exeter emanated from Mr. Spence Bate at the annual meeting of the Dental Association in the summer, and though Exeter had not been the first to start hospitals of this kind, he trusted that the zeal of the committee would be such that it would soon become one of the best in the kingdom. (Hear hear.)

The Rt. Rev. the LORD BISHOP, in moving the first resolution, said that he was very glad indeed to take part in starting the establishment of a Dental Hospital in the city, and he would venture to begin by saying that they would soon be set free from the necessity of listening to him on the matter, because he really knew nothing at all about it. (Laughter.) He could there speak only in very general language indeed. It had always been a glory of this country that all the resources of science sooner or latter had been made available for the use of posterity, and it had been the great glory of our hospitals that whatever discovery might be made in medicine or therapeutics it was instantly at the service of all classes alike, and that even the poorest man might have the best possible medical or surgical advice. And it was only an extension of that desire—which was an honour to England, and which they would not desire to see relaxed—to benefit all classes, that they proposed to establish Dental hospitals just as they had established medical and surgical hospitals. Such an institution would be a blessing not only to poor people but, if they considered the matter, the public and the Dentists would gain by their bringing all the resources of science to bear as much as possible. It would be a very good thing in every neighbourhood that the Dentist should be a man of large experience, and it was very probable that by the establishment of this hospital Dentists would have a great deal more practice and know more of their own science, so that while they were affording a blessing to the poorer classes they would gain a great deal of knowledge of value to all classes. The only question was whether Exeter was large enough to supply a sufficient amount of work for a Dental Hospital to do. He should think it was, but that was a matter which could only

be spoken to by those who were acquainted with the facts. He heartily concurred in the proposal to establish the hospital, and should be very glad to subscribe towards the funds. He begged to move "That a Dental hospital for Exeter be established."

The SHERIFF (Mr. S. Jones) said he was sorry to say that his experience of Dentistry was not like that of the Bishop. He supported the motion with great pleasure, considering the establishment of such a hospital would tend to advance the science of Dentistry and would be very beneficial to the poorer classes, as it would provide the means of relief from pain and a means of stopping decay.

Mr. SPENCE BATE (Plymouth) said that it had given him great pleasure to come up to assist in starting this institution. At Plymouth they had about 2000 to attend to in the year, and the advantage was generally felt throughout the neighbourhood. His lordship had asked if Exeter were large enough for the purpose, and he could only say that the new Act which had come into force narrowed very much the number of persons who could act as Dentists, but who used to be scattered all over the country, and included in their numbers blacksmiths and barbers. People who wanted their teeth extracted had been obliged to go where they were able. He remembered a man coming to him to have a tooth extracted. The man had gone to a surgeon who had failed, and had then gone seven miles to a blacksmith, who broke the tooth, and then came another seven miles to see him (Mr. Bate). He remembered the case with pleasure, on account of the compliment the man paid to him. When the tooth was extracted the man exclaimed, "I knowed you'd do it when I seed you walk across the room!" Now, the walk across the room did not take the tooth out, but his manner impressed the man with the fact that he had confidence in what he was doing. Confidence was only gained by practice, and the more practice and experience they had the better it was for all patients. It had often struck him whether, when he said that he had taken out so many teeth in an hour, it might not be thought there was danger of being unkind to the poor. But it must be remembered that speed did not necessarily mean unkindness. In establishing that institution they would find that it would be the means of relieving many poor persons who had suffered for a long time, because they had not confidence in the men they could go to, and had not the means to pay a large fee to those in whom they would have had confidence. As the Bishop said, those who subscribed would get back all they subscribed in the results of the experiments that were made. When he

said experiments, he did not mean that the patients would run any risk. He was glad to hear from the Mayor's speech that he did not know much about Dentistry. The great thing now, even when a tooth was worn down, was to build it up again. They were able to do things now which the nervous and wealthy would not allow them to do, but which the poor who had confidence in them would. He contended that such an institution, in teaching persons to take care of their teeth, would inculcate the virtue of cleanliness, for he said one never saw a man with clean teeth dirty in other parts of his person. He also referred to the importance of good teeth for the purposes of mastication, and, in conclusion, suggested whether it was not possible to make the institution a kind of provident one, where people could feel that they had a right to come, and not a mere charitable institution.

The motion was then carried unanimously.

The MAYOR said that Mr. Brand had consented to become a life governor, and had sent a subscription of £10 10s. to purchase a set of Dental forceps for the benefit of the institution.

Mr. H. D. THOMAS moved the adoption of the rules of the institution as printed.

Major WYATT-EDGEELL seconded the motion.

A discussion ensued on some of the rules, the wording of which was altered, and they were then adopted. It was stated, in answer to a question, that the institution did not undertake to provide mechanical aid in providing false teeth, but simply to prevent pain and extract and stop teeth.

The following gentlemen were unanimously appointed the officers and committee, viz.:—President, the Right Worshipful the Mayor of Exeter (W. H. Ellis, Esq.); Treasurer, F. Townsend, Esq.; Hon. Secretary, H. B. Mason, Esq.; Committee, H. R. Courtenay, Esq., Geo. Colson, Esq., Rev. J. G. Dangar, Geo. Franklin, Esq., Rev. W. G. Mallett, W. S. Mortimer, Esq., W. Petherick, Esq., H. D. Thomas, Esq., Major Wyatt-Edgell. The following gentlemen were appointed the medical staff:—Consulting Surgeons, Messrs. A. J. Cumming and C. H. Roper; Surgeon Administrator of Anæsthetics, Mr. W. A. Budd; Dental Surgeons, Messrs. S. Bevan Fox, Augustus King, C. Norman King, Henry B. Mason, J. T. Browne Mason.

On the motion of the BISHOP, a vote of thanks was given the Mayor for presiding, and the proceedings terminated.

British Journal of Dental Science.

LONDON, MARCH 15, 1880.

It is with much regret that we have read the closing sentence of the interesting address delivered by Mr. Cattlin, the President of the Association of Surgeons practising Dentistry (we wish they would adopt some shorter title), in which he speaks of "the civil war which has begun." The address is interesting as furnishing some exposition of the views of the party represented by Mr. Cattlin, but this almost declaration of war gives rise, we repeat, in our mind to feelings of the deepest regret. We cannot say it has arisen from him, but the public declaration of it has, and therefore it is, that in alluding to what is a too evident fact, we have been compelled to associate it with the one who first uttered the ominous words. We have on a former occasion declared that our future flag, so to speak, is "INDEPENDENCE AND LIBERALITY," referring especially to the conduct of this Journal; to this we would now add the words "PEACE AND UNITY," an Utopian idea, we fear, many will exclaim, but one which we will unswervingly endeavour to keep before us. We would ask the leaders of both parties, to neither of which are we affiliated, what is to become of the rising generation of Dentists, if all the energies of their seniors is to be expended on petty, personal, we had almost said, "family" contests. It is *not* in the interests of the profession at large that such strife should continue, and in the interests of that Peace and Unity which we advocate, we would in the name of the whole body of Dentists, earnestly call upon the leaders of both parties to pause ere they present to the medical world the sad sight of the house of Dentists divided in itself. Surely the leaders might meet, confer, and with a little mutual concession, a little yielding of personal feeling and pride, unite in some measures for the general good of the profession apart from the comparatively petty matters which now distract their attention from their graver duties.

For ourselves, as we said above, we belong to no party, no clique. We belong only to the body of Dentists at large. Our pages are open to an expression of opinion from all sides provided it is couched in decent language and not in vulgar and impertinent tones. We would earnestly invite both parties openly and frankly to state their views in our pages, and perchance from a free expression of opinion on both sides some scheme may be eliminated which will tend for the future to the promotion of the greatest good to the whole body of Dentists.

One word more and we have done for the present. Whatever defects there are in the Dentists Act—and there are few parties who are not offended with some one portion or another of it—there is one great point attained by it, and it is for THAT and that ALONE that we have steadily worked from the time we first advocated it in this Journal in 1870; that is, that after a certain date—now passed—no one can call himself a DENTIST without possessing a certain amount of medical and technical education, tested by examination, and verified by the possession of a diploma. What that education, that diploma may be in the future is a matter of comparative indifference to us. The one great point we started the idea of, and carried to a successful commencement, at the first meeting of the Dental Reform Committee, held on March 17th, 1876, leaving it then for other hands to complete and carry through Parliament, was that after a fixed date (August 1st, 1879) it was no longer possible for a Dentist's servant, a Dentist's clerk, or an unsuccessful tradesman to set up and call himself a Dentist, and in the Post-office Directory place himself on a level with the highly educated, thoroughly practical, and experienced Dentist. This is a boon that can never again be taken from the Dental body, no matter in what way the enforced education may be carried out; and it is for the origination and successful organisation of this, the only scheme which, according to Sir John Lubbock, could ever have produced such a result, that we claim the credit of having been first started by this Journal. That the body of Dentists may derive the full benefit from this result, we now earnestly ask all parties to try and reconcile their differences, and

unite with us in one common effort for the promotion of PEACE and UNITY, in support of which we trust we shall yet be able to maintain in the conduct of this Journal the principles of INDEPENDENCE and LIBERALITY.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

ORDINARY MONTHLY MEETING, MARCH 1st, 1880.

ALFRED J. WOODHOUSE, Esq., President, in the Chair.

THE following gentlemen were ballotted for and elected members of the Society:—Messrs. W. R. Maggs, of Albert Street, Regent's Park, George Pedley, M.R.C.S., of High Street, Borough, F. J. Bennett, M.R.C.S., of George Street, Hanover Square, as Resident Members. Messrs. Charles Farnsworth, of Oxford Street, Manchester, and Arthur Taylor, of Belvue Road, Leeds, as Non-resident Members, and Dr. Joseph Iszlai, of Buda-Pesth, as a Corresponding Member.

The PRESIDENT announced that Mr. Leonard Matthieson, of Oxford Road, Manchester, had been duly nominated, and would be balloted for at the next meeting.

Dr. WALKER read the following casual communication:—A gentleman, aged 30, consulted him, though with evident reluctance, stating that he had only come because his medical attendant had insisted upon his doing so, and that his teeth had been examined many times before and had always been found to be perfectly sound. On inquiry, Dr. Walker ascertained that about twelve months before the patient experienced great pain in the left side of the face and head; after a few days he began to have also occasional throbbing and dull heavy pain over the whole of the superior maxillary region; a few weeks later pain in the left ear and in the region of the temporal bone supervened; soon afterwards a swelling appeared over the mastoid cells under the insertion of the sterno-mastoid muscle; this resulted in a large abscess, and several smaller ones followed in the same region. To this succeeded occasional indistinctness of vision in the left eye, which increased until he lost the sight. During this time the patient's general health had

failed considerably. He took several months' rest, with total abstention from all business, and frequent changes to the seaside, but without any beneficial result. On examination the left eye was seen to be of a different colour to the right; there was no apparent swelling over either superior or inferior maxilla; no tenderness anywhere on pressure; there were cicatrices over the mastoid cells, but no accumulation of pus. In the mouth the mucous membrane appeared healthy, but there was slight redness round the alveolar margins of the first and second left upper molars. The teeth all appeared to be perfectly sound; no discoloration was apparent; all were firmly implanted in their sockets, except the second left upper molar, which was distinctly movable, but with no visible elongation, and on making the patient bite forcibly on a hard substance no tenderness was perceived. But on isolating this tooth and injecting iced water a paroxysm of severe pain was its immediate consequence. Dr. Walker, therefore, determined to extract it, and on doing so an ounce of pus poured into the mouth through the palatine socket.

In this case the palatine fang of the second molar had perforated the floor of the antrum. Obscure caries on the posterior proximal surface of this tooth generated pus, which accumulated in the antrum, and then passed back through the vidian canal, the hiatus Fallopii, and the aqueductus Fallopii, to the part of the temporal bone under the origin of the sterno-mastoid muscle, and by absorbing a portion of the hard palate the pus could pass along the posterior palatine canal to the sphenomaxillary fossa, and thence through sphenomaxillary fissure into the orbit. The patient visited Dr. Walker several times afterwards; he soon recovered the sight of the left eye, and his health became perfectly re-established.

Mr. SEWILL said he was scarcely prepared to admit without further evidence that the pus did actually travel to the petrous portion of the temporal bone by way of the canals which Dr. Walker had enumerated. He thought it was much more likely that the matter had passed along the bones externally, burrowing under the muscles and fasciæ. He thought that had the temporal bone been the seat of an abscess there would have been some interference with the function of hearing, which had not been the case. So, also, he thought that the effects on the eye might be more easily explained by supposing that the pus in the antrum had exerted upward pressure on the floor of the orbit; very similar symptoms are met with as the result of pressure in cases of tumour of the antrum; and had pus actually penetrated

into the orbit considerable disorganisation of the contents of that cavity must have resulted, and there would not have been such a rapid recovery after the evacuation of the matter. Of course, these criticisms did not in the least diminish the interest of the case, nor could they lessen the credit due to Dr. Walker for his very skilful and accurate diagnosis.

Mr. GADDES remarked that the influence of the nervous system in exciting purulent secretion in parts remote from one another must not be lost sight of. It might be that in this case the presence of pus in the neighbourhood of the ear had been due to the transmission of a reflex nervous impulse, and not to the actual travelling of matter from the superior maxilla to the temporal bone.

Dr. WALKER answered that a detailed reply to Mr. Sewill's criticisms would take up more time than could be spared that evening; but he might state that this was not the first case of the kind which he had met with. On several occasions patients had been sent to him by ophthalmic surgeons, who had diagnosed the presence of pus in the orbit, and had found it to be due to disease of the teeth or palate. He would, on a future occasion, give particulars of four or five cases in which pus had travelled to considerable distances through the bony canals of the skull, and he thought he should be able to convince Mr. Sewill that what he had supposed to have occurred in this case was neither impossible nor improbable.

Mr. MAGOR showed a left upper wisdom tooth, which had been extracted from the mouth of a lady who had, for some time previous to the operation, suffered severely from neuralgia of the left side of the head. The tooth, which was carious, was very small and deformed, resembling a supernumerary rather than an ordinary third molar.

Mr. BROWNE-MASON related the following case:—A young man, running across a wet lawn, slipped and fell with great force, striking his upper front teeth on the edge of a stone step. On examination, the left central incisor was found to have been driven right up into its alveolus; the right central had a portion of its crown broken off; the outer plate of the alveolus was fractured from canine to canine; the left lateral, although still in its socket, was so loose as to threaten to fall out on the slightest touch, both the other incisors being also very loose. Mr. Mason pulled down the left central into line with the others, and then took an impression in Godiva wax of the whole upper jaw, taking care not to remove the loose teeth from their sockets. He then applied a temporary splint of wax, until he had made one of celluloid. This fitted closely to both the lingual and labial sur-

faces of the incisors and canines, and passed round the last tooth on each side of the jaw ; it was attached by ligatures to the second bicuspid on one side and to the first on the other (the second being absent). The accident occurred on February 18th, and the case had since progressed very satisfactorily. Of course the patient was still wearing the splint, and would continue to do so until the teeth had become quite firm.

The PRESIDENT then called upon Dr. Lauder Brunton to read the paper of the evening on "Nervous Diseases connected with the Teeth."

Dr. BRUNTON began by saying that, of course, the common nervous disorder connected with the teeth was that which was commonly known as "toothache," but he need say nothing further about this. But toothache might be associated with other pains, or even replaced by them, and then the true cause of the pain might remain unsuspected even by competent medical men, and then treatment may consequently be comparatively ineffectual. My attention was first drawn to the connection between decayed teeth and nervous disorders having little or no apparent relation to them by an incident which occurred a good many years ago, when I was a student. A maid-servant had complained for some days of headache in the left temple of a severe neuralgic character, and associated with this was a certain amount of toothache, which was, however, less complained of than the headache. I plugged the offending tooth with cotton wool dipped in melted carbolic acid, but was greatly disappointed to find that it produced little or no apparent benefit. In less than half an hour, however, the girl informed me that the pain in the temple and the toothache were both entirely gone. Their disappearance was not due to the carbolic acid having required time to exert its action, but to its having been applied to a different point. The girl had taken it out of the cavity of the decayed molar into which I put it at first, and transferred it to another tooth, of which she had not complained, which I had not suspected. Immediately the pain disappeared, both from the tooth and the temple. In this case pain was felt in the tooth as well as in the head ; but headaches may occasionally depend upon caries of teeth, in which no pain whatever has been felt, as once happened in my own case. I had been suffering from migraine, the pain being limited to a spot in the left temple ; there was tenderness on pressure at one spot below and in front of the left temple. On several occasions I had noticed that the left eyeball was also tender on pressure, but on this occasion I was suffering from headache, and yet found that the eyeball

was not tender. I therefore set to work to find out the primary seat of irritation. I at last found a tender spot near the angle of the jaw, and this led me to examine the mouth and teeth. Nothing abnormal was to be noticed in the lips, cheeks, tongue, or gums, so I tested the teeth by percussion with a blunt steel point, and on the posterior aspect of the last molar on the left side of the lower jaw I found a spot which was very slightly tender. I accordingly went at once to a Dentist, and learned that caries had just begun at that spot, but had not caused any cavity whatever. The connection which was here found to exist between temporal headache and a decayed tooth is, I think, interesting, not only showing a causal relation between the caries and the headache, but as helping to explain the pathology of migraine.

Much has been written about the pathology of migraine, and very different opinions have been held respecting it. Professor Du Bois Reymond, who suffered a good deal from it, attributed it to spasm of the vessels, for he found that, during the pain, the temporal artery became tense and hard, like a piece of whipcord, and the pupil of the eye on the affected side dilated, as if the sympathetic in the neck had been irritated. Others have discarded this explanation, because they found that the vessels, instead of being firmly contracted, were distended widely and throbbed violently, and they have attributed the pain in the head to the congestion of the vessels.

These two explanations of the pain of migraine, the one attributing it to anæmia, and the other to congestion, are apparently irreconcilable. My own case gives, however, I think, an explanation of the discrepancy. Both statements are correct, but both are incomplete. By observations made on myself I found that on some occasions the temporal artery was hard and contracted, like a piece of whipcord, as described by Du Bois Reymond. On others I found the temporal artery wider, dilating and pulsating violently, and yet I could distinguish no difference between the pain I felt on these different occasions. So, not contented with noting the condition of the temporal artery only at its middle, I followed it onwards to its smaller branches, and backwards to the carotid.

Then I found that a constant vascular condition existed during the headache, notwithstanding the apparent differences in the state of the temporal artery. This constant vascular condition consisted in dilatation of the artery at its proximal, and spasmodic contraction at its distal, extremity. The carotid artery was almost invariably dilated and throbbing.

Sometimes the dilatation would extend as far as the trunk of the temporal artery, but sometimes the temporal was contracted. Even when the temporal artery was dilated, if one only followed it to its smaller ramifications they were found to be firmly contracted and cord-like. If one may reason from this single instance, connecting as it does the examples of vascular dilatation and contraction given by other authors, we may say that the pain of migraine depends neither on contraction nor on dilatation of the vessel *per se*, but upon dilatation of the one part of the vessel with spasmodic contraction of another, or, if we might so term it, upon a state of colic in the vessels themselves. This irregular contraction of the vessel is almost certainly due to disordered vaso-motor innervation. The cause of this disorder is to be sought in the sympathetic system, and the observation of Du Bois Reymond regarding the condition of the iris may lead us to connect it with the cervical ganglia. From these ganglia vaso-motor fibres proceed along the carotid and its branches, and if we regard disorder of these ganglia as the cause of migraine, we at once are in a position to explain some of the symptoms which occasionally accompany it. Thus, I have observed that sometimes the pain in the temple would suddenly cease, and be replaced by pain in the occipital region. Sometimes, also, we have affections of the sight, such as general dimness of vision, diplopia, and spectra—coloured or uncoloured. The transference of pain from the temple to the occipital region is probably caused by transference of the spasmodic contraction from the temporal to the occipital artery; the disorders of the sense of sight we may reasonably regard as caused by alterations in the intracranial branches of the carotid, similar to those which we can detect by the finger in the temporal branch. The disturbance in the sympathetic system, which I regard as the cause of migraine, may not always have its origin in the teeth; it may, and very probably does, sometimes originate in the eyes.

The connection between dental caries and neuralgia was first noticed by Neucourt, and he gives rules for diagnosing a causal relation between caries and neuralgia. When the pain, which is at first widespread, gets localised, in the course of a few days, in the dental region, and is succeeded by redness, swelling, and tenderness on pressure of the gums, the neuralgia is almost certainly of dental origin. Tenderness on percussion is considered by Richter to be the most certain sign. The diagnosis may be assisted by noticing whether the neuralgia, when disappearing, lingers longest in one of the teeth. The exact pathology of

neuralgia has not yet been settled; but Valliex, one of the great authorities on the subject, gave as its distinctive points the presence of spots which were tender on pressure, and the effect of pressure in increasing the pain. These spots have been noticed by Neucourt in neuralgia depending upon dental irritation, and he has also observed the absence of increased pain on pressure in true neuralgia, so that no distinction can be drawn between neuralgia due to dental irritation and neuralgia depending upon other causes.

Although the most frequent seat of pain due to carious teeth is the temporal region, yet, as one would expect, we find it also in parts of the neck. A few weeks ago I was consulted by a lady regarding her throat. She had pain opposite the upper part of the thyroid cartilage on the right side, and thought that she had inflammation at that point. Laryngoscopic examination showed the larynx to be perfectly healthy, but I found one of the molars on the same side as the painful spot to be extensively diseased. The pain from which she suffered, I have little doubt, was caused by the decayed tooth; but, as she refused to have it extracted or stopped, I could not absolutely verify my diagnosis. I put her upon a course of tonics and the pain almost completely disappeared.

This would be said by some to prove my diagnosis to be wrong; for if the pain depended on the presence of a carious tooth, how could it disappear while the tooth remained unattended to? But we must always remember that the actions which take place in the animal body are not so simple as those which occur in the test-tube of a chemist. Yet even in the test-tube we require more than one reagent to produce a reaction; and if one of the substances or conditions necessary for the reaction be absent it does not occur, even though other conditions be present. In the same way we know that a decayed tooth does not always cause toothache, and that toothache, when present, may frequently be removed by the use of a saline purgative. The tooth still remains as a source of irritation, but the state of the nervous system has been so altered by the purgative that pain is no longer produced by the irritation. In the same way we may not unfrequently relieve the neuralgia originating from decayed teeth by a judicious course of aperients and tonics. This is so far advantageous to the patient, as it relieves him from pain; but it is, on the other hand, disadvantageous, inasmuch as it causes the medical man to overlook the real source of the evil, and allows the dental caries to proceed instead of having it arrested by suitable stopping. In the case I have just mentioned the

pain in the larynx, which I attributed to the decayed tooth, did not lead to any change in the nutrition or functions of the larynx. Pointis, however, records a case in which, after severe toothache, the patient suddenly lost his voice, and the aphonia was followed by anorexia, cough, wasting, and feverishness, which led to the belief that he was suffering from laryngeal phthisis; but careful examination showed his lungs to be sound, but many of his teeth were carious, and there was extensive periostitis and inflammation of the gums. The diseased teeth were therefore removed, and by the following day all the alarming symptoms had completely disappeared.

The irritation caused to the larynx by the process of dentition is well recognised, and has led to the employment of the term teething-cough. The existence of a real causal connection between cough and teething has been doubted; but there are cases on record which seem to show that this really does exist.

From the close connection that exists between the throat and the ear, we would expect deafness to be not unfrequently the consequence of dental irritation. It seems, however, not to be very frequent, although it does occasionally occur.

The eye is much more frequently affected than the ear, and blindness is by no means an uncommon result of dental decay. Mr. Jonathan Hutchinson has recorded some cases of this, and he regards the blindness as reflex, and analogous in its causation to essential paralysis of children. The sight is suddenly lost, but there are no cerebral symptoms. The optic nerve is sometimes atrophied, but sometimes not. The blindness is generally preceded for a long time by facial neuralgia, associated with toothache. A more striking case than any of Mr. Hutchinson's is recorded by Dr. De Witt. A perfect healthy man, aged thirty-one, suddenly noticed, in attempting to fire off a gun, that his right eye was completely blind. He had neither pain nor subjective appearances of light in the eye. He was able to distinguish light from darkness with it, but nothing more. No cause for this blindness could be discovered until twelve years afterwards, when it was found that the patient had several teeth stopped two months before his blindness. For a long time afterwards he suffered from pain and tenderness in the first molar of the right side. The gums swelled and ulcerated, and frequent abscesses formed, which he opened with his knife. The stopping was at length removed from the tooth, and this at once relieved the irritation of the gums and increased the power of sight. In three weeks, however, when the sight had already become considerably better, the

gums again ulcerated, and sight became immediately worse. The decayed tooth was then extracted, and the sight became permanently improved, although it never became quite so good as that of the other eye.

That there is some connection between the teeth and the sight has long been popularly recognised in the name "eye-teeth," given to the canines, and the experiments of Magendie and Schiff seemed to show that this was not a mere popular superstition, but was based on a scientific fact. Magendie divided the inferior maxillary branch of the fifth, and Schiff divided the lingual and inferior dental branches without injury to the ophthalmic branches. The dimness of vision produced by these experiments is referred by Schiff to disturbance of the vaso-motor supply to the eye, consequent upon a partial paralysis of the ophthalmic branch of the fifth; but as this nerve itself was not injured in the experiment, it is evident that the vascular alterations are of reflex origin, the irritation having been conveyed from the site of the wound to the nerve centres, and having there exerted such an influence upon them as to induce vascular changes in the eye. It is possible, however, that this hypothesis of Schiff may not be quite correct, and that a reflex change takes place, not in the eye itself, but in the cerebral centres by which impressions made upon the retina are perceived. The reason for supposing this is that sometimes no change can be perceived in the eye, although at other times the eye itself, or part of it, may have undergone considerable organic change.

Spasmodic contraction of the masseters is another consequence of dental irritation. A few weeks ago, a gentleman, over forty years of age, called upon me and told me that he was much concerned about a spasmodic affection of the jaw from which he was suffering. He was, in fact, afraid of lock-jaw. I had not previously met with a similar case, but it seemed evident that the spasm must depend upon congestion of the cerebral centre for the movement of the face, which Ferrier locates at the lower end of the fissure of Rolando, or on reflex irritation from the mouth itself. The latter cause seemed so much the more probable that I requested him to see a Dentist, and the source of irritation was then discovered to be a wisdom tooth, which was just making its way through the gum, but in a somewhat oblique direction, so that its crown was pressed against that of the molar in front of it. On looking into the literature of the subject I found that this affection was fully described and was said to be tolerably common.

We have mentioned paralysis of the eyelid as a conse-

quence of dental irritation, but paralysis of a much more extensive character may occur from this cause, especially in children. Teething is recognised by Romberg and Hencock as a frequent cause of paralysis in children. According to Fliess, paralysis of this sort occurs more commonly during the period of second dentition, whereas convulsions generally occur during the first. Its onset is sudden. The child is apparently in good health, but at night it sleeps restlessly, and is a little feverish. Next morning the arm, or more rarely the leg, is paralysed. The arm droops; it is warm but swollen, and of a reddish-blue colour. It is quite immovable, but the child suffers little or no pain. Not unfrequently paralysis is preceded by choreic movements. Sometimes recovery is rapid, but at other times the limb atrophies, and the paralysis may become associated with symptoms indicating more extensive disturbance of the spinal cord and brain, such as squinting, convulsions, and even coma. It is only in very rare instances that we are able to gain any insight into the pathological anatomy of such cases, because they rarely prove fatal; and even when they do so the secondary changes are generally so considerable as to leave one in doubt as to the exact mode of commencement. This renders all the more valuable the case recorded by Fliess, in which a boy, five years old, and apparently quite healthy, found his left arm was completely paralysed on waking, after a restless night, one morning. He, however, suffered no pain and played about as usual. The same day he fell from a waggon upon his head, and died in a few hours. Apart from the fracture of the skull, which caused his death, the anatomical appearances which were found were congestion of the spinal cord near the point of origin of the brachial nerves; the meninges were here much reddened and congested; the veins were much fuller than on the corresponding right side. There was no organic change perceptible, either in the spinal cord or in the brachial nerves. On the other hand the turgescence of the veins extended from the shoulder and neck up to the face, and was very striking in the sub-maxillary region. This vascular congestion seems to point to vaso-motor disturbance of a somewhat similar kind to that which we have already noticed in connection with occipital headache, or with migraine accompanied by subjective appearances of either form or colour. Choreic movements may occur as one of the prodromata of paralysis from teething, and occasionally dental irritation may give rise to true chorea; this may be caused either by the progress of the second dentition or by premature caries.

According to Russell Reynolds, the second dentition is

also a cause of epilepsy, and he has observed that those who are affected by it have often suffered from convulsions during the first dentition. A case is recorded by Albrecht of a boy, aged twelve, who suffered daily for twelve months from general convulsions, which began in the temporal region and extended to the external auditory meatus. There was no decay in this instance, but the teeth were large, and the last molar on the right side had its crown jammed into the ascending ramus of the jaw. As soon as it was extracted the pain ceased, and the convulsions did not return. Another case is given by Mr. Castle of a young man, aged nineteen, who had complained for four years of headache and pain in the eyes, stiff-neck, swelling and numbness of right arm. For the latter two years he suffered from general convulsions, which came on every two or three days, ending with vomiting, and often succeeded by partial deafness. All treatment was useless, and setons and blisters to the neck did no good. Nearly all the teeth were carious, and several affected with alveolar abscesses. Nine were extracted, and the fits entirely ceased.

Affections of the intestinal track, depending on dental irritation, are of very great importance. The diarrhœa which occurs in children during dentition is well known, and is probably of reflex origin. In adults, many a case of dyspepsia is due to defective teeth, partly, it may be, from reflex affection of the nerves, both secretory and motor, of the stomach and intestines, but partly also, without doubt, to the imperfect mastication of the food, which is swallowed without being broken up, on account of the pain or inconvenience which the act of mastication causes. In this way two evils are occasioned. First of all, the shortened sojourn of the food in the mouth allows no time for the secretion of saliva. For want of this the starchy constituents of the food are imperfectly digested; moreover, deficiency of saliva also lessens the normal stimulus to the secretion of the gastric juice.

In the second place, imperfect mastication has a mechanical action in preventing perfect digestion, for the food, being swallowed in lumps, is not permeated by the digestive fluids, and thus cannot be dissolved in anything like the same period of time that it would otherwise be. The diarrhœa which occurs in children is probably produced through the gastric and intestinal branches of the vagus, and other branches of this nerve may be affected reflexly from the teeth.

The close connection between the roots of the fifth nerve and those of the vagus can be demonstrated anatomically,

and it is probably in consequence of this that irritation of the fifth is able to exert such a powerful influence upon the circulation. Some time ago, in a paper which I published in the 'British Medical Journal,' I mentioned that the cause of death during the extraction of teeth under chloroform was probably the stoppage of the heart's action through the inhibitory fibres of the vagus, associated with a reflex depression of tone in the blood-vessels. The reason why the extraction of a tooth in a person who is not under the influence of an anæsthetic is followed by no ill effects is probably this: that in him the irritation of the fifth nerve produces two distinct actions which counterbalance each other. It may cause reflex stoppage of the heart through the vagus, but at the same time it causes reflex contraction of the vessels through the powers of the motor centre. This contraction of the vessels maintains the pressure in the arterial system during the stoppage of the heart, and thus no harm whatever is done. When an anæsthetic is used, however, one of these pieces of nervous mechanism may be paralysed by it, while the other is not, and thus the extraction of the tooth may stop the heart without causing contraction of the vessels. The blood pressure will then sink very rapidly in the arterial system, and fatal syncope may be produced. If, however, the anæsthetic be pushed to a greater extent, so that both parts of the nervous mechanism just mentioned are paralysed, the vessels are not contracted, neither is the heart stopped. The operation is therefore comparatively free from danger when no anæsthetic has been given, or when the anæsthesia is perfectly complete, the period of danger being that of imperfect anæsthesia.

We have now seen how affections of sensation, of motion, and of nutrition, may all be dependent upon dental irritation, but even the cerebral faculties themselves may also suffer from a similar cause. One or two very interesting cases of this sort are recorded by Dr. Savage in the 'Practitioner' for June, 1876. One of these was that of a farmer, aged twenty-two, with a strong family tendency to insanity. In May, 1875, he suddenly took to riding madly about the country without his coat and waistcoat. From May until November he was exceedingly noisy, destructive, untidy, almost constantly excited, and if for a day or two he was exhausted, he was sullen, and more dangerous. In the middle of November he complained of very severe toothache that caused him to be sleepless. He bore this for two or three days, after which the stump was removed. There was suppuration at the root of the fang. From the time that the stump was

extracted the patient steadily improved, and by the middle of December was quite well.

Dr. Brunton concluded by giving a brief recapitulation of the chief points of his paper, adding that, though it contained nothing new, some of the facts could only be learned by reference to works which were not very easily accessible, and he hoped that its publication might induce the medical profession to pay more particular attention to what he could not but consider a most important subject.

The PRESIDENT thought that Dentists should congratulate themselves on the fact that medical men now paid more attention to local irritation as a cause of nervous derangement than they had done formerly. He had met with many cases in which the patient might have been spared much suffering had the points to which Dr. Brunton had called attention been more generally recognised. He hoped that Dr. Brunton's paper would attract the notice of the medical profession to this important subject.

Mr. CHAS. S. TOMES said he had been surprised to hear Dr. Brunton state, on the authority of Prof. Schiff, that irritation of the branch of the fifth nerve, which supplied the teeth, would affect the sight of the eye on the same side. He should be glad if Dr. Brunton would inform him on what animals the experiments were tried, and how the impairment of vision was tested. The correctness of the observation was of some practical importance, since the inferior dental nerve was sometimes divided as a last resource in cases of obstinate neuralgia, and if there was any danger of "dimness of sight" resulting, of course the operation must be abandoned. He had himself performed the operation a good many times, but had never known any such effect to be produced. Then, with regard to the pathology of migraine, Dr. Brunton had advocated the view that the pain was due to spasmodic contraction of the vessels. If this were so the pain should be relieved by amyl nitrite, but this was not invariably the case, even when it was given to the extent of producing extreme vascular relaxation. The inhalation of ether also produced vascular relaxation, evidenced by flushed face and full bounding pulse, yet he had evidence on one occasion of an attack of neuralgia whilst the patient was fully under the influence of ether. This was in the case of a man who suffered from very severe paroxysmal attacks of neuralgia along the course of the inferior dental nerve, which were always accompanied by spasmodic twitching of the lips. Mr. Tomes cut down upon the nerve and divided it, and during the operation, whilst the patient was fully under the influence of ether, the peculiar twitching occurred, which

indicated an attack of neuralgia. Lastly, Dr. Brunton had quoted some German authority, who asserted that the spasm of the masseter, which sometimes came on during the eruption of the lower wisdom teeth, was due to laceration of part of the fibrous attachment of the muscle by the tooth. But if this was erupted in its proper place it was far away from the attachment of the masseter, and if it happened to be directed outwards the external plate of the jaw was so exceedingly strong and hard that the course of the tooth was always diverted by it. He thought, therefore, that the generally received opinion that this muscular spasm was of reflex origin was more likely to be the correct one.

Mr. SEWILL thought that the Society was to be congratulated on the fact that it would have in its 'Transactions,' the best account of the connection of the teeth with nervous disorders which had yet been published. Dr. Brunton had collected from various sources some remarkable cases of serious derangements of the nervous system resulting from dental irritation, but he himself had been greatly impressed by the extreme rarity of such cases in practice. He had been for twelve years Dental Surgeon at a metropolitan hospital, during that time had seen a large number of patients, and had carefully recorded all exceptional cases. Yet amongst them all he had not met with a single case of severe nervous disorder which could be said to be directly dependent on disease of the teeth. Some nervous diseases, such as epilepsy, might be aggravated by dental irritation, but as the direct result of this he had met with nothing more serious than neuralgia and spasm of the masseter. He had not even met with a case of distant neuralgia which could be assigned to this cause; the pain was always confined to the head and face. Of course, these remarks referred only to adults. In infancy, grave nervous disorders no doubt did occur not unfrequently from this cause, but Dentists did not usually see much of this class of cases.

Mr. COLEMAN said he was surprised to hear that Mr. Sewill never met with cases of nervous disorder due to disease of the teeth. He himself had published some years ago in the 'Lancet,' several very clear cases, and he had seen many since. Quite recently a little girl had been brought to him who had become subject to fits. He removed some bad teeth and the fits entirely ceased. The late Mr. Holmes Coote had stated to him that talipes equinus was more often due to nervous irritation set up by teething than to any other cause. If Dr. Brunton had not brought forward any new discoveries he had certainly given a more scientific explanation of the pathology of these cases of reflex nervous

disturbance than had, so far as he knew, been previously attempted.

Mr. GADDES said he had lately met with a case which showed clearly the effect of dental irritation in aggravating nervous disease. A girl, aged 17, came to him at the National Dental Hospital. She had been subject to epileptic fits for two years, and when she came to him was having, on an average, two a week; there was no hereditary predisposition to epilepsy. Some of the bicuspid teeth were much broken down by caries and had decomposing pulps; she had also broken her upper central incisors in one of the fits, and the pulps of these were exposed. As extraction of the teeth would have seriously damaged the girl's personal appearance, and the wearing of a plate by an epileptic was not free from danger, Mr. Gaddes contented himself with clearing out and filling the pulp canals. The result of this treatment was that during the next three months the girl had but one fit, clearly showing that there was a connection between the state of the mouth and the fits.

Mr. OAKLEY COLES said that not long since a girl who had become subject to epileptic fits was brought to him; he extracted two very carious teeth, and she had no fits afterwards. He had been much surprised to hear of the result of Prof. Schiff's experiments on the inferior dental nerve. He had seen many cases in which this nerve had been divided for severe neuralgia, and had never known the sight to be affected by it. He remembered one patient on whom the late Sir Wm. Fergusson had performed this operation fourteen times. On each occasion the patient obtained relief from his pain for some weeks, or even for a few months, and no bad results followed.

Dr. WALKER said he had seen many instances of the serious effects of dental irritation in young children, especially on those who were weakly or had inherited a scorbutic tendency. He would mention the case of a family the members of which had been constantly under his observation for some years past. The first three children died during the progress of the first dentition; after this orders were given that the other children should be taken to him as soon as they were six months old, and afterwards whenever there was anything the matter with them. These regulations had been scrupulously carried out; and the result had been that the succeeding seven children had been successfully reared. He had never lanced the gums deeply, but scarified them freely with a sharp point. On several occasions the good effect of this treatment had been most marked. For example, the father going home to his house

in the country on a Saturday noticed that one of his children squinted; he was sent to Dr. Walker on Monday, the squint still persisting, but next day it had entirely disappeared. Another child lost the use of one leg for three days; the gums were scarified, and he was well again directly.

Mr. E. CANTON asked Dr. Brunton whether he thought that paralysis of an arm or leg could be produced in an adult by dental irritation? He had met with a case in which pain in a lower molar had been accompanied by spasm of the muscles of one arm and leg, followed by partial paralysis; but as the patient was an anæmic young lady, and the effects produced seemed to be disproportionate to the apparent cause, he had supposed the paralysis to be due to hysteria. He, however, impressed upon the patient the conviction that it was due to the tooth, and that the extraction of the tooth would cure it; this result did actually follow, but in what way it was produced he could not say.

Mr. J. S. TURNER said his own experience enabled him to answer Mr. Canton's question in the affirmative. About two years ago, a gentleman, aged 28, was brought to him from the country. The patient came into his consulting room held up on either side by his father and brother, being unable to walk, and sometimes even to stand, without this assistance; he was always suffering from severe trismus. The cause of all this was a lower wisdom tooth, which had grown horizontally outwards, perforating the strong outer plate of the maxilla, its crown being embedded in the substance of the masseter. The patient was a stout, healthy man, of somewhat nervous temperament, but certainly not inclined to hysteria. The tooth was removed with some difficulty, and the patient recovered completely from his paralysis. The following was also an instructive case. A lady consulted him on account of periodical attacks of most intense left hemicrania. The attacks were always brought on by mental excitement, as, for instance, when her husband came home from his voyages. When they occurred the pain was so severe that she was obliged to shut herself up in a dark room, and could neither see anybody nor do anything. She had a splendid set of teeth, and apparently there was nothing the matter with any of them, but the upper wisdom tooth was only partially erupted. As they were evidently useless, and Mr. Tomes suspected that the left one must be in some way a source of irritation, he removed it, and then found that it was carious on the buccal surface, the disease having been hidden by the gum. From that day the patient had no more pain.

Mr. DENNANT said that had it been necessary he could have given his testimony in support of nearly everything which Dr. Brunton had stated respecting the effects of dental irritation on the nervous system, but as so much had been said on this subject, he would relate a case of another sort. Dr. Brunton had referred to the fact that, after the teeth, the eyes were a common source of reflex nervous irritation. In the following case irritation of the olfactory nerve produced similar results. A lady of middle age came to him complaining of paroxysmal attacks of severe facial neuralgia, which she supposed might be due to a carious tooth. Mr. Dennant carefully examined all the teeth, but found nothing wrong. During the sitting an attack of pain came on, and the patient asked if there were any flowers in the room. There happened to be some roses on the table. The patient then said that the smell of flowers would always bring on an attack, and that any irritation of the olfactory nerve, such as a puff of smoke from the grate, would have the same effect. Mr. Dennant recommended mountain air, and she said that the same advice had been given to her when suffering in a similar way about fifteen years before, and that she had then derived great benefit from the change.

Mr. S. J. HUTCHINSON said he should like to ask Dr. Brunton two or three questions. Had he any experience of the value of tincture of hamamelis as a local application? He had said that in small doses chloroform might exert a depressing effect on the action of the heart, but that in larger doses this action was counterbalanced by a contraction of the small arteries. How did nitrous oxide act in these respects and how was its superiority over chloroform in point of safety to be accounted for? Could he give any explanation of the action of purgatives in curing neuralgia due to dental irritation?

The PRESIDENT having called upon the author of the paper for his reply,

Dr. BRUNTON said that as the time at his disposal was very short he could only deal briefly with the most important of the questions which had been put to him. He could not then reply to Mr. Tomes' first question, for he had been unable to obtain a copy of the original paper by Prof. Schiff, but he hoped to be able to get one in a few days, and would then give Mr. Tomes the information that he required. Mr. Tomes doubted his explanation of the pain in migraine, because nitrite of amyl did not relieve it, although it produced relaxation of the vessels; but the fact was that the nitrite did not uniformly dilate, it could not dilate, a vessel which was contracted by the irritation of a vaso-motor

nerve. Hence, although it produced great general vascular relaxation, it might not be able to suspend the reflex action of the vaso-motor nerves, and the local contraction due to this cause would persist. The same thing probably occurred during the administration of ether, but this he could not positively assert.

In answer to Mr. Canton he would say that dental irritation might certainly cause paralysis in an adult as well as in a child. The brain centre which presided over the movements of the hand and that which governed the mouth were so closely connected that excessive stimulation of one centre might easily derange the functions of the other.

With regard to Mr. Hutchinson's questions. He had never used the tincture of *Hamamelis virginica* for dental purposes; it had been recommended to him as a remedy for the irritation of mosquito bites, and he tried it, but with very unsatisfactory results. As to the action of chloroform on the heart. The nerve from the tooth would act upon the vagus centre and upon the vaso-motor centre in the brain. The vagus centre being irritated would tend to weaken, or even to stop, the heart's action; but the vaso-motor centre being irritated equally would cause contraction of the arterioles, and thus no fall of blood-pressure would occur. But when chloroform was administered its first effect, when given in small quantity, was to paralyse the vaso-motor centre; the action of the vagus being thus left unopposed, cessation of the heart's action might occur without simultaneous contraction of the arterioles; there would then be an immediate rapid fall of blood-pressure, and fatal syncope might result.

Nitrous oxide was opposed to chloroform in that it acted as a strong stimulus to the vaso-motor centre, and this accounted, in part at least, for its superior safety as an anæsthetic.

Mr. Hutchinson's third question was one which it would be impossible to answer briefly; it opened up a very complex and difficult subject, and he would not therefore attempt it.

At the suggestion of the PRESIDENT a vote of thanks was given to Dr. Brunton for his valuable paper, and to the authors of the casual communications, and the meeting then terminated.

Literary Notices and Selections.

The Medical and Dental Registers.

WE have received a copy of the 'Medical Register' for 1880, and are pleased to note the improvement which has taken place in it of late. It is better printed, and more carefully edited; names no longer continue to appear years after the owners are dead and buried, and the addresses of the living are given as correctly as possible, considering that those who ought to be concerned take but little interest in the matter. It should be remembered that the Registrar is now authorised, under certain circumstances, to strike out the names of those whose whereabouts cannot be satisfactorily ascertained. No doubt the same practice will be followed in the case of the 'Dental Register' also; practitioners should therefore be very careful to inform the Registrar of any change of residence. We note, also, in the 'Medical Register,' that among the Acts bearing upon medical practice the Dentists' Act of 1879 is given in full, showing that we are not so completely dissociated from our medical and surgical brethren as Mr. Catlin appears to think.

By the way, we have heard many complain because a revised edition of the 'Dental Register' has not yet been published. The fact is that the demand for the work has been so small that a large proportion of the first edition still remains on hand. Under these circumstances, the Medical Council does not like to incur the heavy expense of reprinting. Those who call for a revised edition have, however, only to come forward and relieve the Registrar's over-crowded shelves and their wish will at once be granted.

Transactions of the Odontological Society of Great Britain.

THE March number of these 'Transactions' has just appeared. It contains the full text of Dr. Lauder Brunton's valuable paper on "Nervous Diseases connected with the Teeth," an abstract of which appears at p. 282 of our present issue. As a frontispiece is given a reproduction of the very interesting photograph in Cunningham's work on the 'Temples of India,' which was shown by Mr. S. J. Hutchinson at the December meeting of the Society. It represents a bas-relief found in a ruined temple near Allahabad, known

as the Stupa of Bharhul. A group of monkeys are extracting a giant's tooth. The unfortunate patient is bound, and the tooth is held in the grasp of a very primitive pair of forceps, to which an elephant is harnessed by ropes. The piece of sculpture is more than 2000 years old, the temple having been built about the year 300 B.C.

DEATH FROM ETHER.

THE death of a patient while under the influence of ether is reported in the 'Boston Medical Journal' of January, as having occurred in Providence, United States, on the 17th ultimo, under the following circumstances. The patient, a man aged about fifty-five years, was knocked down by a runaway horse, and sustained some injury about the hip. The next day sulphuric ether was administered to facilitate the diagnosis, and after taking it for about fifteen minutes the man, without any warning, ceased to breathe. Artificial respiration was resorted to, but without success. The necropsy showed effusion of serum beneath the arachnoid, with thickening of that membrane, valvular lesions of the heart, and cystic degeneration of the kidneys. The 'Canada Lancet' reports the death of a lady from ether, administered by a physician for the purpose of extracting a tooth. Scarcely an ounce had been used. The coroner's verdict was paralysis of the heart, caused by inhalation of ether.—*Brit. Med. Journ.* Feb. 7.

LOCAL USE OF CHLOROFORM IN DENTISTRY.

Dr. Schaffer, speaking from an extensive experience in teeth-extraction, states that the local use of chloroform forms a most admirable preventive of all subsequent hæmorrhage or other ill-consequences, and hastens the contraction of the wound in the gums. He strongly recommends it as a "mouth-wash," acting as it does in all affections of the gums and teeth as a disinfectant, anodyne, and corroborant. The formula he uses is—Spirits of wine 100, and chloroform 5 to 10 parts, peppermint oil 5 to 10 drops.—*Wien. Med. Woch.*

Miscellanea.

TOMES AND TURNER TESTIMONIAL FUND.

WE much regret that, through an error in the "making-up" of our last issue, this list was omitted. We trust ere it closes it will be largely added to, as, without the unceasing attention of Messrs. Tomes and Turner to the last moment in Parliament, the Bill would never have passed during the Session of 1878.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Herewith I forward you a list of the subscribers to the Tomes and Turner Testimonial, and request the same may appear in your Journal. Yours faithfully,

ALFRED HILL.

23, Henrietta Street, Cavendish Square, W.;
March 6th, 1880.

			£	s.	d.
Able, A., Harrogate	...	...	2	2	0
Ackery, J., London	...	...	1	1	0
Alabone, A., Isle of Wight	...	...	1	1	0
Alderton, F. H., London	...	...	2	2	0
Anderson, A. E., Maidstone	...	...	1	1	0
Andrews, J. R., Torquay	...	...	0	5	0
Apperley, E., Stroud	...	...	1	1	0
Ashby, R., Scarborough	...	...	1	1	0
Ashworth, H., Manchester	...	...	0	5	0
Atkinson, J. H., Leeds	...	...	2	2	0
Bacon, W. B., Tunbridge Wells	...	...	1	1	0
Bailey, G. H., London	...	...	1	1	0
Balcombe, T., Jersey	...	...	1	1	0
Baly, C., London	...	...	2	2	0
Barkley, W., Worcester	...	...	1	1	0
Barrett, A., London	...	...	1	1	0
Barrett, H. J., London	...	...	10	10	0
Bartlett, W. P., London	...	...	1	1	0
Bate, C. S., Plymouth	...	...	2	2	0
Baylis, G., Durban, S. Africa	...	...	1	1	0
Baylis, L., Pietermaritzburgh, S. Africa	...	...	1	1	0
Bell, M. L., Canterbury	...	...	1	1	0
Bennett, F. J., London	...	...	1	1	0
Bennett, S., London	...	...	1	1	0
Bensted, C. S., Waltham New Town	...	...	0	5	0
Betts, E. G., London	...	...	1	1	0

	£	s.	d.
Bever, H. A., Oxford	1	1	0
Bindemann, L. F., Worcester, S. Africa	0	10	6
Birt, S., Brighton	2	2	0
Bodecker, A. J., Norwood	1	1	0
Bonnalie, G., Chester	1	1	0
Bradshaw, R., London	1	1	0
Brand, E. E., Exeter	2	2	0
Bridges, T. B., Whitby	1	1	0
Bromley, C. H., Southampton	1	1	0
Brown, J., Scarborough	1	1	0
Brown, J. H., Brighton	1	1	0
Brown, R., Tavistock	1	1	0
Brownlie, J. R., Glasgow	5	5	0
Buchanan, G., Glasgow	5	5	0
Buckell and Rogers, Salisbury	1	1	0
Bullin, F., Chester	1	1	0
Bunter, G. B., Maidstone	1	1	0
Campbell, W., Dundee	2	2	0
Campion, H., Manchester	5	5	0
Campion, H., Manchester	1	1	0
Canton, F., London	1	1	0
Canton, W. C., London	1	1	0
Carter, E., Melbourne	5	5	0
Carter, F. S., Leeds	1	1	0
Chapman, W., London	1	1	0
Clare, E. M., Douglas, Isle of Man ...	0	5	0
Clarke, T. M., Richmond	1	1	0
Cocker, A., Ripponden	0	10	6
Cockings, S., Louth	0	10	6
Coleman, A., London	5	5	0
Coles, O., London	1	1	0
Coles and Balkwill, Plymouth	2	2	0
Connacher, D. J., London	1	1	0
Corke, H. C., Dalston	0	10	6
Cormack, A., Edinburgh	1	1	0
Cormack, D., London	2	2	0
Cotton, J., Oswestry	1	1	0
Cox, E., Preston	0	5	0
Crabtree, E., Accrington	1	0	0
Crapper, J. T., Hanley	1	1	0
Cronin, A., London	2	2	0
Crowther, G. H., Wakefield	1	1	0
Cunningham, J. T., Edinburgh	2	2	0
Daish, W. H., Ryde, Isle of Wight ...	1	1	0
Daish, W. H., jun., Ryde, Isle of Wight	0	10	6
Dally, F., Wolverhampton	1	1	0

	£	s.	d.
Danks, G. E., London	1	1	0
Danks, J. A., London ...	1	1	0
Davis, M., London ...	1	1	0
Davis, W. C., Bristol ...	1	1	0
Dean, F. S., Paris ...	1	1	0
Dennant, J. D., Brighton ...	2	2	0
Didsbury, J. M., Paris ...	0	8	0
Dobbs, F., London ...	2	2	0
Donovan, F., London ...	1	1	0
Drabble, J. E., Sheffield ...	1	1	0
Drabble, R. C. H. and L. H., Sheffield	1	1	0
Fairbank, J., London ...	1	1	0
Farebrother, H. L., Tunbridge Wells ...	1	1	0
Feltham, R. D., Jersey ...	1	1	0
Fergie, W. M., Edinburgh ...	2	2	0
Finlayson, M., Leith ...	0	10	6
Fisher, W., Dundee ...	1	1	0
Fletcher, J. B., London...	5	5	0
Fletcher, T., Warrington ...	2	2	0
Foran, J. C., Eastbourne ...	1	1	0
Forsyth, W. F., London ...	5	5	0
Forty, J., London ...	1	1	0
Foster, J. A., Birmingham ...	2	2	0
Fothergill, A., Darlington ...	1	1	0
Fothergill, E., Newcastle-on-Tyne ...	1	1	0
Fothergill, J. A., Darlington ...	0	10	6
Fothergill, W., Darlington ...	1	1	0
Fox, C. J., London ...	1	1	0
Frost, C. J., Pendleton ...	1	1	0
Gadde, T., London. ...	1	1	0
Garland, T. G. S., Heavitree ...	0	10	6
Gartley, J. A., London ...	2	2	0
Geekie, W., Oxford ...	0	10	6
Gibbings, A., London ...	1	1	0
Gibbons, T. C., Brighton ...	1	1	0
Gilbert, W. J., London ...	1	1	0
Gillies, D., Derry ...	1	1	0
Gingell, G., London ...	0	10	6
Goddard and Hepburn, Nottingham ...	2	2	0
Goepel, J. R., Liverpool ...	1	1	0
Graham and Wood, Stockton-on-Tees...	2	2	0
Grant, J. D., Jersey ...	1	1	0
Grant, J. G., London ...	1	1	0
Grayson, E., Kendal ...	1	1	0
Greenfield, J., London ...	1	1	0
Greenwood, E., Halifax ...	0	10	6

	£	s.	d.
Gregson, G., London	1	1	0
Grünbaum, H., London... ..	1	1	0
Hall, A., Launceston, Tasmania	1	1	0
Halliday, M. W., London	1	1	0
Hammond, G., London... ..	1	1	0
Hankowski, F., London	2	2	0
Hardie, J., Alloa	1	0	0
Hardie, W. J., Montrose	1	0	0
Harding, G. H., London	1	1	0
Harding, T. H., and M., London	6	6	0
Harding, W. E. Shrewsbury	1	1	0
Hargreaves, J. J., Manchester ...	0	2	6
Harrison, R., London	1	1	0
Hatfield, J. H., London	1	1	0
Hay, W., Norwich	1	1	0
Heath, T. W., Richmond	1	1	0
Hedgeland, J. H. Exeter	1	1	0
Hele, W., Carlisle	2	2	0
Helfrich, R., London	1	1	0
Helyar, H., Haverfordwest	1	1	0
Henry, G., Hastings	2	2	0
Henry, H. C., London	1	1	0
Henry, W. F., London	1	1	0
Hepburn, D., Edinburgh	2	2	0
Hepburn, D., London	1	1	0
Hepburn, D. D., London	1	1	0
Hepburn, R., London	2	2	0
Hiam, C., Northampton	1	1	0
Hill, A., London	5	5	0
Hill, H., London	0	10	6
Hinds, J., Coventry	2	2	0
Hockley, A. G., London	2	2	0
Hogue, T. W., Bournemouth	1	1	0
Holland, J., London	1	1	0
Hoole, S., London	2	2	0
Hopkinson, R., Salford	1	1	0
Horrocks, J., Bolton	0	10	6
Huet, F. A., Manchester	1	1	0
Hugo, S. G., Guernsey... ..	0	10	0
Hunt, W., Yeovil	1	1	0
Hutchinson, B. T., Cape Town ...	0	10	6
Hutchinson, S. J., London	1	1	0
Ibbetson, G. A., London	5	5	0
Iliffe, J., Melbourne	1	1	0
Imrie, W., Paris... ..	5	5	0
Inder, G. J., London	0	10	6

	£	s.	d.
Jackson, B. S., jun., Penrith ...	1	1	0
Jackson, T. S., Hastings ...	1	1	0
Jenkin, T. S., Malta ...	1	1	0
Jepson, A., Leamington... ..	1	1	0
Jones, W. G., Eccleshill ...	0	5	0
Jordan, H. W., London... ..	2	2	0
Karran, J. Douglas, Isle of Man ...	2	2	0
Keeling, G. R., Epsom ...	1	1	0
Kelly, T. M., and Sons, Manchester ...	2	2	0
King, C., New Cross ...	1	1	0
King, E. H., Godalming ...	1	1	0
King, R., Shrewsbury ...	1	1	0
King, T. E., York ...	1	1	0
Kirby, H. T., Leicester... ..	1	1	0
Kohler, C. H., Cape Town ...	0	10	6
Kyan, J. H., Preston ...	1	1	0
Levason, A., Hereford ...	1	1	0
Lindsay, J. B., Dover ...	1	1	0
Lloyd, F. R., Agra, India ...	1	1	0
Lloyd, J. W., Liverpool ...	2	2	0
Longford, J. H., Dublin ...	1	1	0
Longhurst, S. & B., London ...	5	5	0
Lyddon, G., Reading ...	1	1	0
McAdam, G. C. Hereford ...	2	2	0
MacGregor, A., London ...	1	1	0
MacGregor, M., Edinburgh ...	2	2	0
Mackenzie, F. V., London ...	1	1	0
McLeod, W. B., Edinburgh ...	5	5	0
Maggs, F. C., Yeovil ...	1	1	0
Magor, M., Penzance ...	1	1	0
Mahonie, T., Sheffield ...	3	3	0
Mailland, L., London ...	1	1	0
Mallan, G. P., London ...	1	1	0
Mallett, G., Newbury ...	1	1	0
Manton, J. N., Wakefield ...	2	2	0
Margetson, W., Dewsbury ...	2	2	0
Martin, G., Bradford ...	1	0	0
Martin, J. H., Portsmouth ...	1	1	0
Mason, J. T. B., Exeter... ..	5	5	0
Matheson, L., Manchester ...	1	1	0
Matthews, A. M., Bradford ...	1	1	0
Matthews, C., Edinburgh ...	2	2	0
Maw, R., Devonport ...	0	10	6
Medwin, A. G., London... ..	2	2	0
Melrose, E., Bolton ...	2	2	0
Merryweather, Dr., Sheffield ...	2	2	0

	£	s.	d.
Moon, H., London	4	4	0
Moore, W. V., Plymouth	1	1	0
Morison, J. C., Glasgow	1	1	0
Morley, H., Derby	2	2	0
Mortimer, F. C., Portsea	0	10	6
Mosely, A., Newcastle	1	1	0
Moseley, G., Sheffield	1	1	0
Mummery, J. H., London	2	2	0
Mummery, J. R., London	6	6	0
Murphy, J. E. & O. B., Derby... ..	2	2	0
Murphy, T., Bolton	1	1	0
Newman, W. J., Liverpool	2	2	0
Nicol, W. H., Leeds	1	1	0
Nightingale, C. G., Shrewsbury	1	1	0
Nolan, W. H., London... ..	0	10	0
Northover and Ebbetts, London	1	1	0
O'Donoghue, J., Monte Video... ..	1	1	0
O'Duffy, J., Dublin	2	2	0
Offord, J. S., Norwich... ..	1	1	0
O'Meara, A., Simla, India	5	5	0
O'Neill, T. G., Newcastle-on-Tyne	0	10	6
Orphoot, P., Edinburgh... ..	3	3	0
Owen, R., Wolverhampton	1	1	0
Palmer, J. E., Peterborough	5	5	0
Palmer, T. G., Cheltenham	2	2	0
Parkinson, G., Bath	5	5	0
Parkinson, Jas., London	5	5	0
Parsons, T. G., Clifton	2	2	0
Partridge, H. F., London	1	1	0
Paterson, A., Glasgow	0	5	0
Payne, G. W., London	1	1	0
Peacock, C. J., Scarborough	2	2	0
Pearman, G. B., Torquay	0	10	6
Pearson, W. H., London	0	10	6
Pedley, G., London	1	1	0
Pellow, W. T., Southampton	1	1	0
Petty, F., Reading	3	3	0
Pillin, L. B., London	2	2	0
Pitowsky, A., Barnstaple	1	0	0
Poundall, W. L., Brighton	1	1	0
Powell, D., Newcastle-on-Tyne	1	1	0
Read, H. B., London	1	1	0
Read, T., London	1	1	0
Read, W., Brighton	1	1	0
Reboul, A., London	1	1	0
Reid, R., Edinburgh	1	1	0

	£	s.	d.
Rhodes, T., Keighley	0	10	6
Richardson, T., Derby	1	1	0
Rilson, J. L., Penge	1	1	0
Roberts, C. D., London... ..	1	1	0
Roberts, J., London	1	1	0
Robertson, A., Hereford	1	1	0
Rogers, C., London	2	2	0
Rogers, H., London	10	10	0
Rogers, R., Cheltenham	1	1	0
Rogers, T. A., London	10	10	0
Rogers & Kissack, Manchester... ..	3	3	0
Rose, T., Liverpool	2	2	0
Rothwell, J., Southport	0	10	6
Ryding, F., Dublin	1	1	0
Ryland, R. F., Queenstown, Cape of Good Hope	1	1	0
Rymer, S. L., Croydon... ..	5	5	0
Samuel, P. W., Stockton-on-Tees	1	1	0
Saunders, E., London	10	10	0
Scales, H. F., Kendal	1	1	0
Scott, J. W., London	1	1	0
Sewill, H., London	5	5	0
Sexton, T., London	1	1	0
Sheffield, J., London	5	5	0
Sims, C., Birmingham	1	1	0
Simmonds, J. J., London	1	1	0
Smale, C. G., London	0	10	6
Smith, A., Clifton	0	10	0
Smith, E. S., Boston	1	1	0
Smith, J., Edinburgh	1	1	0
Smith, J. A., London	2	2	0
Smyth, A., Glasgow	1	1	0
Spencer, H. L., London	1	1	0
Stacy, E., Brussels	1	1	0
Steele, J., Croydon	5	5	0
Stewart, J., Perth	1	1	0
Stewart, R. E., Liverpool	2	2	0
Stocken, J., London	5	5	0
Street, G. H., Richmond	1	1	0
Strickland, F., London	1	1	0
Stroud, Dr. J. W., Port Elizabeth, S. Africa	2	2	0
Students (Present and some of past) Dental Hospital of London by Mr. Magor... ..	5	12	0
Students at Glasgow, by Mr. Brownlie	11	8	0

			£	s.	d.
Summers, J. R., London	...	...	1	1	0
Surenne, J. G., Edinburgh	...	...	1	1	0
Sutcliffe, J., Bradford	...	...	2	2	0
Theet, M. A. N., Plymouth, N. Zealand	...	...	2	2	0
Tindall, C., Ipswich	...	...	0	10	6
Tippett, J. C., Torquay	...	...	1	1	0
Tod, E. M., Brighton	...	...	2	2	0
Townend, J., Bradford	...	...	1	1	0
Torpey, G., London	...	...	1	1	0
Tripper, T., Liverpool	...	...	1	0	6
Underwood, A., London	...	...	1	1	0
Underwood, T., London	...	...	1	1	0
Underwood, T. F. K., London...	...	...	1	1	0
Van, E., Jersey	...	...	1	1	0
Vanderpant, F. J., Kingston	...	...	2	2	0
Varley, B., Watford	...	...	1	1	0
Vasey, C., London	...	...	1	1	0
Waite, W. H., Liverpool	...	...	1	1	0
Walker, J., London	...	...	5	5	0
Waller, C. J., Blackheath	...	...	0	10	6
Waller, R., Cairo	...	...	2	2	0
Wallis, G., London	...	...	1	1	0
Wardell, W., Luton	...	...	1	1	0
Washbourn, N., Taunton	...	...	1	1	0
Watson, D., Torquay...	...	...	1	1	0
Watson, G. W., Edinburgh	...	...	1	1	0
Weaver, G., London	...	...	1	1	0
Weiss, F. & Son, London	...	...	1	11	6
Wells, J., Berwick-on-Tweed	...	...	2	2	0
West, C., London	...	...	1	1	0
West, E. B., London	...	...	2	2	0
Westlake, B., Windsor...	...	...	2	2	0
Whatford, J. H., Eastbourne	...	...	2	2	0
White, H., Lincoln	...	...	1	1	0
White, J. G., Glasgow	...	...	1	1	0
White, R., Norwich	...	...	2	2	0
Wilkinson, J., Preston	...	...	1	1	0
Williams, C., Leamington	...	...	1	1	0
Williams, E., & Sons, Croydon	...	...	1	1	0
Willis, W. F., London	...	...	1	1	0
Wilson, A., Edinburgh	...	...	1	1	0
Wilson, H. C. Napier, N. Zealand	...	...	1	1	0
Wilson, W., Sheffield	...	...	1	1	0
Wood, J., Brighton	...	...	1	1	0
Wood, J., Dumfries	...	...	1	1	0
Wood, W. R., Brighton...	...	...	2	2	0

	£	s.	d.
Wood, W. R., junr., Brighton...	...	2	2 0
Woodburn, W. S., Glasgow ...	...	2	2 0
Woodhouse, A. J., London ...	...	10	10 0
Woodhouse, H., London ...	...	5	5 0
Woodhouse, R. H., London ...	...	1	1 0
Woodruff, W. H., Leamington...	...	1	1 0
Woods, W. S., Calcutta ...	...	3	3 0
Wormald, D. A., Bury ...	...	1	1 0
Wormald, S., Stockport...	...	1	1 0
Wright, T., London ...	...	1	1 0
Young, J. C., Warrington ...	...	1	1 0
<hr/>			
	£597	17	6

The form of the testimonial to Messrs. Tomes and Turner having been decided upon, the same will be presented to those gentlemen at a Meeting of Subscribers as soon as arrangements are completed. Due notice of the event will be given.—ALFRED HILL, *Hon. Sec.*

NEW PAPER NAPKIN FOR THE USE OF DENTISTS.

WE have received from Mr. Thomas Fletcher, of Warrington, a very pretty specimen of this new napkin, which, from its bibulous character, we find very useful in practice. We wish it could be obtained quite white instead of being covered with various leafy designs. The cost is very trifling.

DAVIS'S MERCURY HOLDER.

WE have received from Mr. Davis two samples of his new patent mercury holders. He has had them made for the express purpose of securing that the mercury enclosed should be that approved of by himself for use with his amalgam. He makes no extra charge for the little wooden bottles, which are of black wood with gilt edges, and do not make an unpleasing appearance on the operating table.

JAMIESON'S ECLIPSE PLATINUM AMALGAM.

WE have received a sample of this amalgam, and have used it so far with comfort and satisfaction. A correspondent writes that, "Although, of course, time is needed to prove its value, he has as yet found that it did not change colour, and that there seemed every probability of its remaining unchanged. It sets quickly, and can be burnished very soon." It appears by experiment made by our correspondent to be quite free from contraction.

SOCIETY OF ARTS.

MR. THOMAS FLETCHER, F.C.S., of Warrington, will lecture, on April 28th, at the Society of Arts, John Street, Adelphi, on "The Use of Gaseous Fuel, with special reference to its Application for Laboratory Furnaces." It will be an experimental lecture, and many new things will be exhibited.

Obituary.

THOMAS BELL, M.R.C.S., F.R.S.

JUST before going to press we have heard of the death, on March 18th, of Mr. Thomas Bell, at the age of 87. In a future issue we hope to be able to give some further particulars respecting one who did much in his earlier days to enhance and adorn the position of Dental Surgery, and whose latter years were devoted to Science and the Study of Natural History.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

THE AMERICAN D.D.S. AND DIPLOMAS—A PROTEST.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In the December number of your Journal a letter of "M.R.C.S. Eng." appeared, referring, in no friendly spirit, to our American brethren who represent some of the Dental colleges in that country.

I am sorry that I cannot endorse the writer's remarks, as I consider that if honest and old-established practitioners are willing to go up to try for the diploma, and they bring unimpeachable credentials from medical men, &c., as to their qualifications, and can give practical proof before the directors as to their manual skill, I see no reason why such men, who are willing to take an affidavit, should not, on being found competent, receive the "degree" after a fair examination.

If I cannot obtain the English L.D.S. by passing a modified and practical examination before a board of directors to examine old-established and registered Dentists, then I intend to appeal to our American friends who do grant their diplomas to old-established practitioners who can bring first-class credentials as well as give practical proof of their manual dexterity.

I cannot afford to go through the full curriculum for the highest L.D.S. and then stand a chance of not passing, and therefore I sincerely trust that the R.C.S. Eng. will permit a modified examination for old and respected Dentists, in fact, for *any* "registered" ones who are anxious and willing to try for the L.D.S.

I am, &c.,

REGISTERED.

A RESULT OF THE DENTISTS ACT.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In the Directory of Newcastle and Gateshead of 1876 there appears a list of nineteen Dentists. Four are since dead, six have removed (and their names do not appear on the Register as practising in those towns), leaving ten still in practice, one of whom has not registered.

In July, 1878 (two years after), according to the 'Dental Register,' there were practising in Newcastle and Gateshead sixty-three Dentists, forty of whom are stated to have been in *bonâ fide* practice, and twenty-three practising in connection with pharmacy.

Surely there is room for investigation. I could indicate several suspicious cases.

I am, &c.,

IN PRACTICE.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Could you inform me how a Dentist's assistant could get a situation in Australia, New Zealand, or the adjacent islands, also whether it would be advisable to go there, and the probable facilities he would have if he did so? I am very sorry to trouble you on this matter, but your readiness to answer all questions put to you urges me to do so.

I am, &c.

A WOULD-BE COLONIST.

[We really cannot answer your questions, but perhaps some of our readers who have had colonial experience will kindly do so; if not, try Messrs. Ash. Their experience with assistants is *very extensive*.—ED. 'B. J. D. S.']

To the Editor of the 'British Journal of Dental Science.'

SIR,—I hope and trust you will use your influence to get the R.C.S., or the British Dental Association, to try and do something, so that registered Dentists may try for the L.D.S. diploma if they can pass a fair examination, theoretical, besides giving practical proof of their manual dexterity—operative and mechanical. Some concessions must be made to honest and respectable men who, like

myself, are anxious and willing to try for the degree if a fair and modified examination be granted. Theory is good in medicine, but practice and skill is required in Dentistry.

I am, &c.,

AFRICANUS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I wish to draw your attention to page 22 of the 'Dentists' Register.' In the two last lines you will see:

Amount in hand, Jan. 5, 1879	£16 12 2
„ Bank, „	8544 18 8

£8610 5 10

This has been audited and found correct, which is more than I can do. Perhaps I ought to write to W. Miller, Esq., the Registrar, and not to you.

Yours, &c.,

J. MASTERS.

Rosamond Street East, Oxford Street, Manchester;
March 12th, 1880.

[On applying to Mr. Miller, the Dental Registrar, we find that in the "Amount in hand" "£16" is a misprint for "£65," which makes the sum quite right. The accounts are correctly given in every other place, as, for instance, in the Council's 'Minutes,' and on pages 109—111 of the separate pamphlet entitled 'Proceedings of the Medical Council in regard to the Registration of Dentists,' of which we advise our financial critic to procure a copy. The Registrar long since detected the misprint himself, just too late unfortunately to correct it, as the sheet was then printed off for the volume.—ED. B. J. D. S.]

To Correspondents.

ANSWERS TO CORRESPONDENTS.

W. W.—Your letter is too personal for insertion.

ANON. (or ANONYMOUS).—Your kindness is thoroughly appreciated, but you would add to the favour if you would send us your name in confidence.

BOOKS AND PAPERS RECEIVED.

- 'Monthly Review of Dental Surgery.'
- 'Chemist and Druggist.'
- 'Transactions of the Odontological Society.'
- 'Le Progrès Dentaire.'
- 'Gazette Odontologique.'
- 'Edinburgh Daily Review,' March 6th.

British Journal of Dental Science.

No. 298.

LONDON, APRIL 1, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

ON AFFECTIONS OF THE EAR ARISING FROM DISEASES OF THE TEETH.

By SAMUEL SEXTON, M.D.,

Surgeon to the New York Ear Dispensary and to the New York Eye and Ear Infirmary.

(Continued from page 267.)

THE permanent teeth are liable to be attacked by caries as soon as they are cut. The first of this series (commonly called the "six-year-old molar") is especially apt to decay early, as it is often imperfectly developed and very susceptible to the usual causes of decay, such as the lodgment of food in the imperfect spots, &c.; furthermore, it is generally thought to belong to the temporary set, and no notice is taken of it until pain results from exposure of the pulp. Children under eight years of age frequently experience the loss of the entire crown of this tooth from caries, and a neglect to preserve it often leads to inflammation and abscess, and in severe cases necrosis of the jaw-bone may result. This particular grinder is therefore a source of much earache and toothache, every fresh cold causing an exacerbation of the nervous irritation. The other permanent teeth are not exempt from attacks of caries at this period. Aural affections that have arisen from the sympathetic irritation of the first dentition are, in many instances, no sooner cured than they are again aroused into sudden activity by the cutting of the second teeth, the eruption of each tooth being the signal for an earache and toothache.

The process of cutting the second teeth is attended by no greater difficulties than the first, unless there should be irregularities of structure or arrangement; these are, however, not unfrequent. Heath relates a case of malposition of the teeth which gave rise to a tumour; in this instance some supernumerary teeth were found embedded in the upper jaw of a patient aged twelve years. During the period of the

eruption of the second teeth the child begins his active outdoor life, and catarrhal affections now become frequent.

A short time ago opportunity was afforded me to examine the aural cases in a large charitable institution containing children of both sexes who were almost exclusively within the period embraced by the second dentition. About 6 per cent. of the inmates were found to have otitis media purulenta, or were the subjects of earache. I doubt not that the actual number affected with aural disease was far greater, since only those were reported who had earache or offensive discharges. The examination of this group of over thirty children, where second dentition was active, impressed me more than any previous observations on individual cases. In some of them there was earache and toothache at the same time, while in others the exact location of the pain could not be determined. The condition of the teeth of these children afforded an instructive study of this subject; in all of them some anomaly was found to exist; either the irruption of the teeth themselves had greatly irritated the gum, and this was especially the case where fragments of the coronary substance of the milk teeth still remained attached to the gum, or the second teeth were irregular or carious. A general catarrhal condition of the mouth, aggravating all the above conditions, was commonly present.

During the first and second dentitions, it may be stated incidentally, the mouth has but little rest. The whole of the period of the first dentition is frequently an uninterrupted painful process, which is rapidly followed by the steady advance of the second teeth, whose early decay is imminent. To this can be added the irritation caused by adherent fragments of the milk teeth, and the not unfrequent anomalies of development, neglect of cleanliness of the mouth, and the presence of abnormal saliva. Affections of the throat, nose, and other parts, when present, increase all of these difficulties. The ear is particularly liable to attacks of catarrh when hyperæmia exists from any cause, and there are but few persons who pass through the period of childhood without having at some time experienced from this source an earache. The general health moreover, can scarcely fail to suffer from this local irritation, as well as from the imperfect assimilation that arises from the difficulty experienced in the mastication of food.

The appearance of the third molar, or wisdom tooth, is very frequently the cause of grave aural affections; and if the ear be found in a diseased condition when its irruption begins there will be an aggravation of the malady. Prosopalgia, abscess, and even necrosis of the jaws, are often deve-

loped by this irritation. The difficult irruption of this tooth, which comes through the gum between the eighteenth and thirtieth years, is owing mainly to the density of the alveolus and covering membrane, which at the late time of its appearance resists penetration. Malposition of the wisdom tooth from anomalies of the germ is of occasional occurrence, and when from this cause it occupies a horizontal or oblique position in the jaw, and is, in cutting, urged onwards against the second molar, irritation results. In these cases the grinding surface of the wisdom tooth presses against the root of the second molar, causing more or less neuralgic pain. Insufficient length of the jaws, especially of the lower one, occasions crowding and obstructs the irruption of these teeth. In numerous instances the inflammatory action is not confined to these teeth, but the connective tissue as far as the pharynx is involved. Dr. Abbot relates two cases where phlegmonous inflammation proved fatal by asphyxia, and another in which the abscess in the pharynx was ruptured by the patient, who violently grasped his own throat in the agonies of suffocation. Immediate relief was thus obtained, and he ultimately recovered. In this case the offending tooth, together with the first and second molars and the two bicuspsids of the same side with their alveolar attachments, were lost by necrosis.

At the present time a patient, aged twenty-four years, is under my care who had a mild attack of aural inflammation from sea-bathing; the membrane not clearing up, as I was accustomed to witness, a more careful examination of the mouth was made, when it was discovered that a superficial abscess had formed over the left lower wisdom tooth of the same side. Closer inquiries elicited the fact that this tooth had been the source of more or less irritation for a year or two; upon its removal the gum slowly healed, and the aural symptoms began to improve. Another case has just been seen by me, that of a lady, aged twenty-one years, who has gradually lost her hearing during the past eighteen months, and can now only hear shouting. For more than a year past earaches have been frequent, and the tinnitus aurium was so distressing that her rest at night was much broken. The membranes have become atrophied and retraction has taken place. Examination shows the cause of this state of things to depend on irritation set up by the lower wisdom teeth, which had penetrated the gum with difficulty. Her upper wisdom teeth can be felt emerging from the maxillary tuberosities of the superior maxillary bone, and from her former experience trouble from their irruption is anticipated.

Sometimes these teeth are very late in cutting. Dr. Abbott relates the case of a man, aged 60, under his own observation, whose two upper wisdom teeth have just appeared. Irregularities of these teeth are often observed. Heath, in his work on the jaws, reports the case of a woman where an upper wisdom tooth projected through the cheek; and he also mentions the fact that abnormally placed molar teeth have penetrated the inner plate of the alveolus, and lodged beneath the mucous membrane of the palate. I, myself, have frequently observed anomalies of this tooth, especially when it has presented its grinding surface towards the buccal wall. The irritation in the jaw occasioned by this tooth is very apt to be soon felt in the ear, and the hyperæmia thus occasioned in the external meatus or drum-head, may easily mislead as to the real cause of the difficulty. Should the throat be involved, as indeed it is likely to be in these cases of difficult dentition, the sympathetic action in the ears will be found to depend also on influences other than the irritation of the dental filaments of the fifth nerve; for the pharyngeal and tonsillar branches of the eighth cranial nerve will bring the throat into direct relationship with the sympathetic system through which the ear is affected. Severe aural irritation, long continued, may establish an inflammation, the etiology of which will be obscure, especially if the patient has been exposed to well-recognised causes of aural disease, unless the part taken by the teeth be kept in mind.

However important the aural affections from the first and second dentitions may be regarded, they are equalled by those arising from diseases of the teeth subsequently. These affections of the ear in youth are nearly always of a painful nature, while on the contrary in those of later years, that symptom is more likely to be absent.

The pain of the teeth, which we familiarly associate with their inflammatory condition, is signally absent in many of their affections, and it is to the absence of this symptom that the chief danger is attributable. Clinical experience has furnished me with numerous examples illustrative of this fact, where most extensive and destructive disease of the teeth, gums, &c., were wholly unrecognised by the patient until his attention was drawn to them as the cause of tinnitus aurium and deafness.

The principal diseases of the teeth met with at the period now under consideration is caries. On its frequency it is unnecessary to dwell, for but few individuals have failed to experience the nervous irritation by which it is sometimes accompanied. Decay of the coronal structure of the teeth is

not in itself painful, but indirectly it frequently causes irritation by the mechanical injury done to the tongue or gums by the sharp edges and points. Thus a jagged tooth may produce abrasions and ulcers on the tongue, or during the act of mastication the gums may be wounded. Hilton gives a case where the tongue was wounded by a carious tooth, and the gentleman affected suffered greatly from a persistent earache, for which he had received local treatment without any relief being obtained. Mr. Hilton, on being consulted, discovered an ulcer on the tongue, which rapidly healed when the rough edges of an adjacent tooth were smoothed off, and there was no return of the disease. A case has just passed out of my own hands which has an interest, in this connection. A child was suffering from an earache, the cause of which was not apparent until an examination of the mouth showed that the aural difficulty had its origin in the irritation produced by a fragment of enamel, left behind by a milk tooth, and wedged in the gum alongside of a newly cut molar. The membrana tympani in this case was decidedly inflamed; the removal of the foreign substance from the gum cured the disease. The buccal mucous membrane likewise becomes diseased from the sharp points of teeth causing ulceration.

A consideration of the general pathology of the teeth would be beyond the scope of this paper, but regarding the progress of the caries which attacks the crown of the tooth, it may be said that it goes on, if not arrested, until finally it perforates the pulp cavity, when usually pain is experienced. In many instances slight changes of temperature in the air inhaled, or in the fluids drank, will cause intense pain in an exposed dental pulp or unprotected neck. During pregnancy this sensitiveness seems to be much greater, and facial neuralgia, &c., are more common. There are, however, a great many persons who lose many, or all, of their teeth from caries without experiencing any pain, but who, nevertheless, seem to have reflex irritation affecting the ears all the same. These cases are frequently most grave as regards the incurable deafness resulting, because of the painlessness of the dental disease as well as of the long-continued aural hyperæmia thus excited.

Inflammation is, however, seldom confined to the dental pulp, although it may in certain cases remain for a long time in a chronic state. The periosteum of the root and of the alveolus is sooner or later the seat of acute or chronic inflammation, which may not remain confined to a single tooth. The gums, as well as the periosteum, are usually involved in the inflammatory process, which in some cases extends to the jaws, the connective tissue, glands, &c.

Suppuration finally gives relief to these cases, although in some cases a train of grave but chronic action sets in to last for months or years. Abscess of the gum is a common occurrence in connection with inflammation of the teeth. Affections of the antrum and nose can only be alluded to here, although when present they should not be overlooked in the treatment of aural disease.

A painless affection of the teeth is described by Wedl, which may be regarded as likely to excite reflex aural disease without the knowledge of the patient. He says:—"In these cases the gum becomes detached from the neck of the tooth, and pressure upon the alveolus forces out a puriform fluid. This condition, which has been described as *pyorrhœa alveolaris*, particularly by French writers, results without notable pain in the loss of the affected tooth. It also attacks whole sets of teeth in one or other of the jaws, and is met with more frequently in persons of middle age, and may last several months or even years. At last all the teeth in the jaw become loose and are lost. While the latter effect is being produced the inflammatory symptoms in the gums often apparently disappear; but if pressure be made with the finger along the root a tenacious gelatinous fluid oozes out, indicating the existence of inflammatory action. In these cases, then, we have first of all to do with a catarrhal inflammation of the gum, which afterwards extends to the root membrane."

Irritation from concealed fangs left on extraction, or after decay of the rest of the tooth, is a common cause of neuralgia, which in numerous instances affect the ear.

Hypertrophies of the teeth and alveolar processes are a common result of continued irritation of the dental nerves. Those of the periosteum of the root are perhaps the most common. These proliferations (exostoses) of the teeth may augment the size of the roots affected to several times their normal growth; they are more frequently found on the bicuspid and molars than on other teeth; they are of slow development, and give rise to painful neuralgias. A case is reported in the 'Quarterly Journal of Dental Science,' 1857, by J. L. Levison, where death ensued from this cause, the irritation of the exostosis exciting inflammation of the membranes of the brain. Tomes ('System of Dental Surgery') reports two cases of epilepsy arising from exostoses of the teeth. Dr. Abbott reports the case of a lady, aged sixty years, who suffered greatly from neuralgia for ten years, during which time she had two operations performed (division of dental nerve) without benefit. The removal of a tooth, having on its root an exostosis, gave entire relief. In

another case all the molar teeth were removed from the upper jaw of a lady for neuralgia, and were all found to have hypertrophied fangs. It is noticed as of interest in this case that the teeth were all sound, and had antagonising teeth. Wedl remarks that "exostosis is a disease of old age. The pain is due to increased tension of the nerves of the periosteum of the root, and to secondary affection of the branches of the nerves of the pulp." Where aural disease has been established from this cause the neuralgia, which is also present, is frequently thought to have its origin in the ear.

Catarrhal inflammation of the gums occur in all ages, usually in connection with affections of the teeth. Its duration when chronic in character is indefinite. Chronic catarrh of the gums may give rise to periostitis of the roots of the teeth, when reabsorption of the margins of the alveolar processes sometimes takes place, and the teeth becomes loosened. Catarrh, however, is usually confined to the incisors, and seldom attacks all the teeth at the same time. In acute exanthemata the gums are subject to irritation, and may afterwards remain in a hyperæmic state, especially during the period of dentition.

Hypertrophy of the gums and epulis must be regarded as probable causes of aural disease.

Anomalies of the secretion of the mouth are of frequent occurrence, and an excess of either alkalinity or acidity may exist. Odontoliths depend on an excess of the normal alkaline secretion. Under the head of tartar Wedl describes several varieties of this affection. The most common are the white porous, the grey brownish, the dark brownish, dark brown with black superficial layers, now and then like ebony, and dirty green. The deposit of tartar on the teeth begins at the border of the gums and insidiously progresses until in some instances one or more of the teeth are entirely covered.

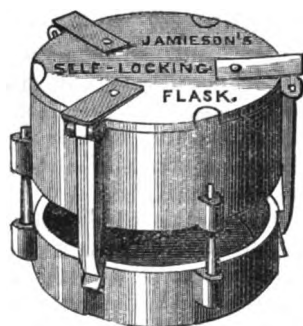
Ambrose Paré describes this condition as "earthy filth of yellowish colour which eats into them (the teeth) little by little, as rust eats into iron. This rusty filthiness, or, as it were mouldiness, of the teeth, doth also, oftentimes grow by the omitting of their proper duty, that is, *chewing*." Wedl says: "Castle asserts that the tartar is sometimes deposited even in the foramen which serves for the transmission of the dental nerve, and occasions severe neuralgia in the branches of the fifth pair; that it is deposited also upon artificial teeth, upon the gold or silver and gutta percha upon which the artificial teeth are set, but never within or upon the alveolar processes."

The coronal surfaces of the teeth are unaffected by the contact of tartar, but it soon sets up irritation of the gums, which become swollen, bleeding easily, and finally suppurating in the severer cases. There is a retention of purulent mucous and particles of food, which undergo decomposition, and catarrhal inflammation with its secretions is frequently present, and increases the formation. The teeth, as the disease advances, become loosened, and sometimes toothache is present. The tartarous masses when rough irritate the gums. This disease is said to be the most frequent cause of dental caries. Tartar seldom attacks the teeth before the sixth year, but children are sometimes subject to its rapid formation. The foul breath of this affection is a prominent symptom, in fact a deposit of small extent is often quite sufficient to taint the breath, and when other causes for foul breath cannot be found the mouth should be examined.

(To be continued).

Mechanical Dentistry.

JAMIESON'S SELF-LOCKING FLASK.



MR. JAMIESON has sent us a nicely finished sample of his new form of self-locking flask, an engraving of which we give above. The three little flat plates indicated therein are metal springs, which assist in the ready closing of the flask; and if they will only stand the wear and tear of the workroom will be found a useful help.

British Journal of Dental Science.

LONDON, APRIL 1, 1880.

THE dissolution of Parliament and the time that must intervene before it meets again, necessitates a pause in that "civil war" among Dentists which, we regretted to find, was announced in our issue for March 1st by the President of "the Association of Surgeons practising Dentistry," and the interval of rest will, we earnestly hope, be spent by the leaders on both sides—not in preparation for further strife—but in endeavouring to frame some scheme of mutual conciliation which alone can tend to the benefit of all Dentists. This, however, we are bound to confess, can scarcely be done without almost ignoring the requirements of the present generation, and working one and all in the most unselfish spirit for the good of those who are to come after us, remembering that many of them are even now in existence, and old enough to see and appreciate the labours and self-sacrifice of their seniors, when in years to come they will reap the benefit of the exertions of those who are now *working*, we will not say *fighting*, for the common weal. We would urge upon our leaders to put by all personal differences, and not emulate the selfish individual who, when asked to work for posterity, desired to know "what posterity had done for him." There is a golden rule which at the present time it may be well to bear in mind—"Do unto others as you would be done by;" and we apply it thus in this case; let us do for the future race of Dentists what we would give much now, to have had done for us by our predecessors. If, when just a quarter of a century ago our leaders had devised some such scheme as that which has now been accomplished, of general registration with a view to future extinction, the many-headed monster of uneducated Dentistry would have been less formidable to deal with; and even in these days the race of undiplomaed men would have been far on the road to extinction; but the golden opportunity was lost in indi-

vidual schemes and petty personal squabbles. The time and opportunity has once more arrived, and we earnestly hope and trust that it will not be again let slip. We have now before us, in Mr. Cattlin's address and Mr. Tomes' reply, which with much pleasure we have published in full, at his request, a clear exposition of the views of each party. And now it only remains for the leaders of each side to meet and earnestly consider whether, by a little mutual concession they cannot devise some scheme for a complete union tending to the general good of all Dentists. The one great point first mooted and advocated by us has been gained, viz. that after 1879 no one shall be allowed to call himself a Dentist unless his name be on the expiring list of the old race, or be in possession of that guarantee of education, a diploma. Now let us all unite, and try to come to some common consent as to what the standard of that education shall be. There is one gentleman who seems to us to stand prominently forth as an intermediary, one who is known intimately to the leaders of both parties, one whose genial hospitality has often tended to smooth down many little rough points, one who, with the experience of age combines the vigour and cheerfulness of youth, and who could find no more fitting task to close a long and honorable career with, than to endeavour to unite all parties upon one common ground for the sake of the Dental community at large. Need we name him? We feel sure our readers will have anticipated us, and say the time for such action is come, and the man to do it, if any man can, is—Edwin Saunders.

STOCKEN'S DENTAL MATERIA MEDICA.

I was much surprised to find in the last edition of this no mention of the use of veratria. For the relief of nervous pains I have known and valued this for at least ten years past. It is so well known for the purpose that I have never yet met with a chemist who does not always keep it, and I question if equally good results can be obtained with any other remedy. Why Mr. Stocken has omitted so well known and so valuable a remedy I am at a loss to understand.—THOS. FLETCHER.

Literary Notices and Selections.

ON CONTRACTIONS OF THE MOUTH.

By E. D. MAPOTHEE, M.D.,
President Royal College of Surgeons; Surgeon to St. Vincent's
Hospital; Consulting Surgeon to the Dental and Children's
Hospitals, Dublin.

(From the 'Medical Press and Circular.')

(Continued from page 223.)

Stomato-plasty.—Last October a countryman, aged 30, otherwise healthy, was sent by Dr. Lyster, of Athlone, to St. Vincent's for contraction of the oral and nasal openings, the result of lupus, which had cicatrised two years before, with horrible deformity. The left nasal opening was wholly closed with a thick scar, and in the right there was a passage through which he daily forced a piece of wood the size of a No. 2 catheter. He refused all interference with the nostrils, as he said that by the use of caustics the contractions had been made worse. The oral aperture was a perfect circle of six lines in diameter, with healthy lip-tissue at the upper and lower thirds, but with hard cicatricial structure at the commissures. It was scarcely dilatable, and examination of the mucous surface with the little finger caused much difficulty of breathing. Speech was very imperfect, and he had been restricted to fluid diet for months. As he begged for the least severe operation, a plan was followed which I have found useful in dealing with cicatricial webs after burns of the elbow and neck. In each cheek, six lines from the strictured mouth, a perforation was made with a platinum rod, two lines in diameter, heated to whiteness by the benzole apparatus. The buccal cavity was protected by a wooden spatula. Mr. Morrison, F.R.C.S.I., has made such holes with Chassaignac's trocar, and kept them open with a drainage tube acting like a seton. In five days the sloughs came out, leaving holes apparently too large. They quickly contracted to a size less than the platinum rod, and in a month were healed, with smooth flexible tissue, which seemed as likely to be permanent as the perforation in a lady's ear. Then the intervening pieces were removed by incisions from the upper and lower edges of the holes to the mouth. On the left side the cheek was found very thick, and at the suggestion of my colleague, Mr. O'Leary, I followed the plan of Serre, of Montpellier, and took out

a wedge-shaped bit of each cut surface from between the skin and mucous membrane, which were then sutured. In four days the surface of the right aperture ulcerated, and contraction ensued till the plan on that side was a failure. The patient and I were fairly content with the left operation, which widened the mouth by some three lines, but on the right (Dec. 9) I performed Dieffenbach's stomato-plasty. I find that Werneck adopted this procedure in 1817—thirteen years before the great master just named.

Anæsthesia was not attempted on this or the former occasion, as the breath inlet was so narrow. The left forefinger being passed towards the mucous surface, incisions were carried from a point ten lines external to the commissure to the upper and lower edges of the mouth. They went only to the depth of the submucous tissue, and to this level the triangular piece was dissected off. The labial portion of the orbicular muscle was cut away, for its sphincter action seemed to promote the persisting contraction. The superior coronary artery being divided was twisted. The mucous membrane, made tense by lowering the jaw, was cut horizontally to within two lines of the angle, with a scissors, and the flaps were stitched to the edges of the skin. But for the difficulty of breathing, I would have followed Velpeau's plan of inserting the sutures before dividing the mucous membrane. Towards the new commissure the flaps were very narrow, but to get them wider would have required incisions beyond the level of the healthy lips. The jaw was bound up with a roller. All was fairly healing by the fourth day; the sutures were removed, and a mouth stretcher, or tubular obturator, similar to that figured in Garretson's 'Oral Surgery,' but made of gutta-percha, was put in. The gutter all round kept it fixed, and the opening in it was much larger than the mouth before operation. He wore it perseveringly, only removing it when feeding. On Christmas eve, when he insisted on going home—some eighty miles—the mouth measured transversely sixteen lines, and, when opened to the utmost, fourteen lines from above downwards. Its greater extent to the right side was not very unsightly, and it will probably lessen. The newly-formed lips had a fair red colour. During treatment the surface of the scar got abraded in several points, yet no lupoid ulceration recommenced, because the sebaceous glands, in which that process has its site, had been all destroyed.

Mr. BAKER had little to add to the case which had been brought before the Society by the President, and with which

his name had been associated. With all deference, however, he must differ with Dr. Mapother as to the cause of the muscular spasm in this case. He did not think it was due to impaction of the wisdom tooth, but to "contiguous irritation." The wisdom tooth was perfectly erupted and standing well in front of the coronoid process. Both the wisdom tooth and the second molar were extensively diseased, and their fangs showed evidence of long-standing chronic inflammation. The periosteum was considerably thickened, and almost cartilaginous in its consistence. In cases of this kind, after the removal of the teeth which were the source of irritation, there was generally a recurrence of the spasm in an aggravated form consequent on the increased irritation from the operation. This state of things soon subsided, and eventuated in a satisfactory cure. The instrument used to separate the jaws in this case was Fergusson's double-lever gag; the teeth were removed with a slightly curved elevator.

Mr. ROBERT M'DONNELL said he had had recently under his care in Steevens' Hospital a case so closely similar to the second that he really thought it was the same until he found that Dr. Mapother's was a male, while his own was a female. His was a frightful case in which the face had been almost entirely devoured away; and the mouth, which was kept open by a crow's quill, had reduced so that he could barely insert his little finger. In fact, she was able to take food so badly that she was dying for want of nutriment. She had been operated on by dilating the mouth, but resulting in her being in rather a worse position than before. There was no mucous membrane existing on the inside of the lips. He did not think the case was suitable for the operation Dr. Mapother had alluded to, and he contented himself with a very simple proceeding, which owing to the assiduity and ingenuity of the resident pupil (Mr. Isdill), turned out very well, and the patient went away greatly improved. He slit the mouth across very widely and put in silver sutures, but they were absolutely of no use. After a few day it was difficult to prevent it from healing. The resident pupil then made silver wire hooks and fastened them with an india-rubber strap behind. However, the patient endured them and went home again very imperfectly cured, but still with a much better mouth than she had when she came to town. The first case was extremely interesting. It recalled a remarkable case of closure of the jaws—that of a gentleman who was wounded in the shoulder in India, the head of the humerus being injured. On his way home by the Cape of Good Hope his jaws began to close, closing gradually and steadily with

occasional relaxations sometimes for a few days. The ball had remained lodged about the shoulder joint. In London he consulted Sir William Fergusson; and having been placed under the influence of an anæsthetic, an attempt was made, but without success, to get out the ball. Irritation of the circumflex nerve probably gave rise to the symptoms. Coming to Dublin some time afterwards he was under his (Mr. M'Donnell's) care, and that of the late Mr. L'Estrange. They succeeded in opening his mouth with dilators, so that he was able to eat solid food carefully minced. Still, no treatment could reduce the irritation, for which they could discover no other cause than the injury mentioned. By a surgeon in London he had been placed under a severe mercurial course, under the supposition that neuritis was the cause. As the result, the anterior part of the alveolus became carious. The trouble of putting in food produced a tenderness which gave rise to necrosis of the front of the jaw. However, by this treatment he obtained a sufficiently good opening to eat with. Subsequently he returned to India and died in the course of some years, having never recovered the trismus.

Dr. STACK said the two cases brought forward were of extreme interest both to the general and the special surgeon. The former of the two, that which was concerned with the wisdom tooth, was the one on which he would make one or two remarks. The cause of the stiffness of the jaw in this and similar cases seemed to be either a spasmodic contraction of the masseter muscle or an interference with its power of relaxation, due to an infiltration of the products of inflammation into or around its sheath. In the case in question, the former appeared to have been the condition of the muscle, because, under ether, the tension relaxed and the jaws were able to be separated rapidly by the gag. If the stiffness of the jaw in any such case were due to the presence of inflammatory products, rapid separation of the jaws either with or without an anæsthetic would be impossible; or, if possible, could only take place after such rending and laceration of the tissues by the forcible distension as would render such an attempt very inadvisable. As regards the wounding of a nerve in operations on the wisdom teeth, it seems to me that the gustatory nerve was in more danger of being wounded in such operation than in the inferior dental.

Mr. STOKES said he himself had performed the operations of Serre with good results; but he was not aware that the same mode of treatment had ever been adopted before in the class of cases detailed, and it would be particularly in-

teresting hereafter to see whether the result would be as satisfactory as it was at present. In his operation he found while relief was given there was a tendency to recontraction to a certain extent, and Dr. Mapother's would be interesting in enabling him to compare the two classes of cases in the same individual.

Mr. CROLY had met with several cases of abscess connected with the wisdom teeth, to which his attention was first directed by the late professor Geoghegan, who was in the habit of making incisions, giving instant relief. Within the last few weeks, from a licentiate of that College, he received a letter requesting a visit, as he was suffering from tonsillitis and almost starved. He saw him. Looking into his mouth, disclosing a very peculiar v-shaped palate, he found the tonsils free, and he then pressed over the last wisdom tooth of the left side of lower jaw, and making a free incision gave him instant relief. About a fortnight afterwards he was attacked with acute inflammation over the situation of the wisdom tooth, and then he got an attack which he thought was tonsillitis. There was great difficulty in looking into his mouth at all, his teeth were almost locked. In a chink between the teeth matter had formed, which originated in the inflammation in connection with the wisdom teeth. Through that chink he got in a bistoury and made an incision, which gave great relief. Since then he had consulted Mr. Sherlock, who was present.

Mr. SHERLOCK said the patient sent him by Mr. Croly was quite well and could open his jaws sufficiently wide to take solid food, but the tooth was not removed. He thought the irritation was caused by the second molar tooth rather than by the wisdom tooth. However, the patient declined to have either removed as he was quite relieved at present.

The PRESIDENT acknowledged the very important information that had been contributed on the subject, especially by the members of the Dental profession, and he at once yielded to Mr. Baker's superior knowledge with regard to the Dental pathology. At the same time in the case in question there had been no inflammatory action, nothing like effusion of lymph, round the masseter muscle. It seemed to be as pure a case of reflex spasm of the masseter muscle as could be conceived. The impaction of the third molar in the root of the coronoid process was usually the cause of *trismus dentium*. On looking at the skull of a child, æt. 4½ years, where its first molar lay under the root of the coronoid process, its impaction in that position caused many of the troubles that he had detailed. In the details given by Mr. M'Donnell he was much interested, and he recognised the

extreme difficulty there was from the condition of the mucous membrane, and where the two holes had failed. But his own case was particularly trying from the difficulty of examining the oral aperture, owing to the closing of the two nostrils. At each attempt the man got blue in the face, so that he never could make any examination of the mucous membrane. He was much pleased at the suggestion made about the hooks pulling back the new commissure. A good deal of the persistent action depended on the sphincter-like action of the orbicularis oris muscle. He had alluded to the absence of infiltration or other inflammatory condition in his case. With regard to the anatomy of the inferior dental nerve, that nerve was more in the way in the extraction of a wisdom tooth than the gustatory, and more likely to be injured. No tugging force from above would rupture the gustatory nerve. Rupture was recorded by Mr. Salter; it occurred in the person of a German baron. The moment the nerve was ruptured he exclaimed that his jaw was torn away. The inferior dental nerve having been torn, the skin was rendered quite anæsthetic. Mr. Stokes' observations were thoroughly sagacious, and he would promise, if the Society felt interested, to record any further observations in the case. Dr. Lyster, of Athlone, had informed him that the man had a mouth as large as when he left hospital, but he was persistently wearing the tubular dilator. In reference to Mr. Croly's observation, the case they had been discussing was not one of closure of the jaws through abscess, but was a pure case of spasm of the masseter muscle by reflex irritation of the inferior dental nerve.

THE ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY, AND THE DENTISTS AOT.

WE understand that the following memorial has just been presented to the Executive Committee of the General Medical Council by the Association of Surgeons practising Dental Surgery:

To the President and Council of the General Medical Council.

The Association of Surgeons Practising Dental Surgery beg respectfully to ask your consideration of the Dentists Act of 1878 with a view to its amendment or repeal. We do so more especially at this time as there are Medical Amendment Acts before Parliament.

We beg to point out that, as indicated in the preamble of

the Act, it was intended to make provision for the registration of persons "specially qualified to practise as Dentists." That this result has not been obtained may be inferred from the fact that more than 5000 persons have been registered as Dentists, whilst the highest estimate formed by those who were interested in the passing of the Dentists Act was, that not more than 2000 persons could be registered in Great Britain and Ireland to practise Dentistry. There can therefore be no doubt that a very large proportion of the persons registered do not possess the qualifications indicated in the preamble of the Act, and therefore that the registration is deceptive.

This result is due to the wording of Clause 6 of the Dentists Act, in which it is stated that "any person who (c) is at the passing of this Act *bond fide* engaged in the practice of Dentistry or Dental surgery, &c., shall be entitled to be registered under this Act." No interpretation of the terms "Dentistry or Dental surgery" having been given, each person claiming registration has interpreted these words after his own fashion, and consequently many persons have been placed on the Dentists' Register without any claim to be "specially qualified."

It is quite true that the General Medical Council by Clause 13 can "cause to be erased from the Dentists' Register any entry which has been incorrectly or fraudulently made;" but until the words alluded to in the preceding section are clearly interpreted, it will be impossible for the General Medical Council to remove the names of persons who may be felt not to be "specially qualified" as Dentist.

Even if the General Medical Council could act under this clause, the delay and difficulties in carrying into operation the action of the clause are so great that much harm will be done before the desired result can be obtained. For example, the Council of the Royal College of Surgeons in Ireland have represented to the General Medical Council that the name of a certain individual has been removed from the Register of Dental licentiates of that college on account of his "admitted unprofessional conduct;" yet, such are the arrangements by which this case can be brought before the General Medical Council and finally settled, that it may occupy more than a year from the present date, the name of such person remaining all the time on the Dentists' Register.

From this it may be seen that a large and important body like the General Medical Council, meeting at rare intervals, and having special and important business of its own to attend to, is not that best qualified to undertake the duties assigned to it by the Dentists Act.

That such was felt to be the case is made manifest by a reference to the Lord President's original Bill (1878), in which, by Clause 23, the power was given to the General Medical Council to frame "a scheme for the examination, licensing, and registration of Dentists; and such scheme, when approved by the Privy Council, shall have effect as part of this Act, subject to being from time to time revoked, altered, and added to by a subsequent scheme submitted by the General Medical Council to, and approved by, the Privy Council." Under this clause it would have been possible for the General Medical Council to have established a board, the regulations of which, under the control of the Privy Council, would have had all the force of the clauses of an Act of Parliament, yet which could be modified according to circumstances.

This was evidently the object the General Medical Council had in view when it passed a resolution on July 4th, 1878, to the effect "that the Council desires to express its wish that the Bill entitled the Dental Practitioners Bill be brought into conformity with the Dental clauses of the Lord President's Bill." This recommendation of the General Medical Council has been disregarded, and instead of the Council being authorised to frame a scheme as above shown, the whole work of carrying the Act into operation has been thrown upon the Council itself, which has thereby been made an executive, and not a legislative, body.

Lastly, the Dentists Act enables certain doctors of Dentistry to be registered, who can thus use the title of "Doctor," a proceeding which will render it *impossible* to carry into effective operation Clause 24 relating to unregistered persons in the Medical Act (1858) Amendment Bill (1879) of the Lord President, whereas also the Act does not prohibit persons from assuming the title of surgeon in conjunction with that of Dentist by those who do not possess any surgical qualification whatever.

We, therefore, earnestly pray that the General Medical Council will be moved to take such measures with reference to the Medical Amendment Act now before Parliament as will secure a due interpretation of the terms "engaged in the practice of Dentistry or Dental surgery," made use of in the Dentists Act, Clause 6.

That they will also be pleased to cause to be introduced in Clause 24, line 37, in the Lord President's Bill, after "takes or uses," the words, *either alone or conjunctively with any other word or words*, "the designation," &c.

Finally, to consider whether it will be for the convenience of the Medical Council and for the interests of Dentists that

Clause 23 of the original Bill of the Lord President should not be made law, and the Dentists Act either repealed or modified accordingly.

Believing that such modifications are absolutely necessary, we earnestly and respectfully request the serious attention of your Council.—*Med. Times and Gazette.*

DENTAL REFORM.

By OUR ENGLISH CORRESPONDENT

To the Missouri Dental Journal.

(Continued from page 232.)

Now, why was not this obvious, common sense, and eminently patriotic course pursued? For a very simple reason. The schoolmaster can only teach what he knows, and what he does not know he naturally regards as not worth knowing. So, instead of the school meeting the wants of the student, it had to be organised to meet the necessities of the gentlemen who aim at being regarded as the bright and shining lights in our Dental world. It is easy to get a modicum of purely medical knowledge where there are such facilities as in London, but to get a practical knowledge of Dentistry would have necessitated an acknowledgment of indebtedness to those men who are to be be-littled and, were it possible, exterminated. Therefore, instead of Dental education, we have a curriculum in which it is, at best, but feebly taught. Instead of bread the student gets a stone; and his craving for more skill is met with sneers at it as mere finger craft, and the demand for it on the part of the public, evidence that it does not understand what is good for it, and must be protected against its own folly. Under such conditions there could be no progress. The public held the L.D.S. degree in no esteem—indeed, it remained almost unknown—and as it was unable to give the possessor a superior position, it must have by law what it could not attain by merit. Moreover, the Americans increased, and so did the numbers at large.

Then commenced Dental reform. In harmony with past proceedings, what ought not to have been was the rule of action. The whole affair was concocted in London; but instead of calling a meeting there, it began by means of a circular from an obscure Dentist in an out-of-the-way district in the North, who was heard of no more in the matter, calling a meeting of Dentists in Manchester, to consider the necessity for *protecting* the profession from the invasion of unqualified persons. From such a source such a proposition

was too amusing for notice. In a short time, however, the Editor of the 'British Journal of Dental Science' proceeded to Manchester and, by means of personal exertion and the aid of such of his friends in that part of the world as needed protection, succeeded in getting together a very small number of persons, not one of whom occupied a prominent position anywhere, over whom he presided. And thus was publicly inaugurated the cut-and-dried scheme. When this was erroneously announced as a meeting of the Dentists of Manchester, as every man in that city who held any position was conspicuous by his absence—although the leading men had been importuned by the chairman to attend—this was so strongly objected to that, to avoid a protest from these gentlemen in future reform proceedings, this was called the "Manchester Meeting," a change in name sufficient to silence the Manchester Dentists, but which was as misleading as ever, for it implied that reform began in that city, and with the Dentists of the North. It is proper, however, to say that the indisposition of a portion of the Manchester Dentists to attend the meeting was the manner in which it was got up, and some of these gentlemen afterwards gave in their adhesion to the reform scheme. In time a body called the Reform Committee was organised, to whom was ostensibly entrusted the task of getting through Parliament an Act which would compel all Dentists then in practice to be registered, and all who came in afterwards to possess some *legal* qualifications. But the real work was done by the little clique with whom the matter originated.*

Then commenced an agitation, and we had the spectacle—amusing or otherwise, according to the mood in which we view it—of men, many of whom had become Dentists, goodness only knows how, indignant that "unqualified" persons should be allowed to set up practice side by side with them, and actually get some of their patients; of men, many of whom had got into practice by advertising, and had managed to get on the register as qualified, in order to make advertisement of their assumed excellence, shocked to think any man could do so unprofessional a thing; and of men, many of whom do not know the difference between protoplasm and a brickbat, clamouring for an Act of Parliament to prevent uneducated persons claiming to be their equals. What was

* The whole account of this Manchester Meeting is so inaccurate and, at the same time, would entail such a long account of its real origin and bearing on the question of "Dental Reform," that we must content ourselves now with a simple protest against its truthfulness as a record of *FACTS*, reserving to ourselves the right of a reply, should we deem it worth our while at some future time to expend so much trouble upon it as would be required to refute it.

said to the public, and what was urged on the Dentists, were distinctly different. While the public were assured the promoters of registration were actuated by the loftiest motives, and were only anxious to provide a superior class of Dentists, the arguments addressed to the latter to give their support were of the most sordid kind; and it was undisguised that the real object was to *limit the number of Dentists*, and to prevent, by a legal enactment which did not reveal the intention, but that could be manipulated for that purpose, the advent of any more of those finger-skilled Americans whom patients persisted in preferring to the rude amalgam stuffers. What was commonly urged was something like this: "The Dentists are increasing quite too fast. There used to be only Mr. So-and-so and myself in our town, now there are twenty odd." This was not unfrequently supplemented by the assertion that the practice, divided among so many, was not anything like what it used to be. Occasionally the fact was revealed that the Act was aimed at the Americans, but not often, as this had to be kept as much as possible a secret; for if what the American gentleman, who seems to be in the confidence of the reformers, so frankly stated at the meeting of the American Dental Association—that "the passage of the English law was caused by the presence of American graduates in Europe"—had come out in a tangible form before the Act was passed, no Parliament would have sanctioned it, for the public know quite too well what they owe to the American Dentist. Besides, it can not be too clearly understood in America that if all this little-mindedness was not confined to a small class of Englishmen, England would not be what it is; and that it has no counterpart in, and meets with no sort of sympathy among the upper classes of the country, who, with its intelligent, industrious class, are its real rulers; and it is especially absent with the intelligent and honorable Dentists and medical men. A specimen of the monopolist type of medical man was one of a deputation to wait on that tory among the tories, the Duke of Richmond and Gordon, to urge that the penal clause of the new Medical Act, now before Parliament, should be made more stringent. "Do you mean to ask that a man shall not perform a surgical operation, or prescribe medicine, even without fee, unless he possesses a legal qualification?" asked his grace. "Yes," was the reply. "Then," answered the nobleman, "I fear you will not be able to get any such law." And they will not. The Dentists Act was obtained because it was supposed to be intended to raise the status of an important body of men. To what extent it has done so let us determine.

The first thing to observe is, that all matters appertaining to the profession is placed under the control of the Medical Council. This is a legal body composed of twenty-three gentlemen, seventeen of whom represent the seventeen—one to each—medical licensing bodies in the kingdom, and five are nominated by the Queen. To this body no Dentist, as such, need aspire. So we are to be governed in true Oriental style by what is, to us, an irresponsible despotism. This Council is to keep a register of the Dentists, determine who shall be on it and who shall not; what qualifications are necessary, and what foreign diplomas are to be considered good enough to rank with the L.D.S. license. But all Dentists in *bonâ fide* practice Aug. 1st, 1878, are entitled to registration without any further question. After defining the meaning of the special terms used in the Act, it proceeds to declare that—"From and after the first day of August, one thousand eight hundred and seventy-nine, a person shall not be entitled to take or use the name or title of 'Dentist' (either alone or in combination with any other word or words), or of 'Dental practitioner,' or any name, title, addition, or description implying that he is registered under this Act, or that he is a person specially qualified to practise Dentistry, unless he is registered under this Act. Any person who, after the first day of August, one thousand eight hundred and seventy-nine, not being registered under this Act, takes or uses any such name, title, addition, or description as aforesaid, shall be liable, on summary conviction, to a fine not exceeding twenty pounds; *provided that nothing in this section shall apply to legally qualified medical practitioners.*"

In the minds of the concoctors of the reform scheme, the legal qualifications of a physician, surgeon, or apothecary carry with it, as the greater includes the less, the necessary qualifications of a Dentist. The possession of the manipulative skill supposed by ordinary minds to be indispensable to Dental surgery is quite unnecessary for the Dentist provided he be medically educated. One finds it difficult to treat such folly seriously. The working of this section should be carefully noted for another reason. It does not say that no one shall "practise Dentistry for fee or reward" as in the New York Act, but no one shall, unless registered, call himself a Dentist, or by any title that implies he is registered under the Act, or that he is a person *specially qualified*—that is, holds a legal qualification—to practise Dentistry unless he is registered. This clause carefully avoids one of the main objects the concoctors of reform had in view. The wording of the New York Act is what they

wanted but did not get. A man may still practise Dentistry if he does not call himself a Dentist, just as a pharmacist may prescribe for a customer if he does not call himself a surgeon or physician.

The Act next proceeds to declare that no one shall be able to recover a fee for any Dental operation unless he is registered under the Act "*or is a legally qualified medical practitioner.*" Such a man may style himself a Dentist and recover his fees without registration. It next declares that—

Any person who—

- (a.) Is a Licentiate in Dental surgery or Dentistry of the medical authorities; or,
- (b.) Is entitled as hereinafter mentioned to be registered as a foreign or colonial Dentist; or,
- (c.) Is, at the passing of the Act, *bond fide* engaged in the practice of Dentistry or Dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy, shall be entitled to be registered under this Act.

With regard to *b*, it is declared that—

"The certificate which is to be deemed such a recognised certificate as is required for the purposes of this Act, shall be such certificate, diploma, membership, degree, licence, letters, testimonial, or other title, status or document, as may be recognised for the time being by the General Council, as entitling the holder thereof to practise Dentistry, or Dental surgery, in such possession or country, and as furnishing sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of Dentistry or Dental surgery."

It cannot fail to be observed that in this, as in every part of the Act, Parliament has been liberal enough. It is the working of it that calls for comment.

In conformity with this clause, there are registered as foreign Dentists, out of all there are in the country, two (2) gentlemen holding the D.M.D. degree of Harvard. The holders of the D.D.S. degree of the University of Michigan are also entitled to register because it is affirmed to give medical education superior to the other American schools and *requires more time*. The holders of all American degrees, with these two exceptions, from whatever college attained, are rigidly excluded as not "*furnishing sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of Dentistry.*" That the men who got up registration are able to so manipulate it as to make themselves appear in the register as qualified, while their modest,

and as a rule more competent countrymen appear as unqualified men, are only tolerated because they have acquired vested rights by being in practice; and that the diplomas of these men, whose example and teaching have done so much to elevate Dentistry out of the miserable condition into which these reformers have brought it, and against whom the qualified (?) men have to be protected, are not recognised because they do not "furnish sufficient guarantees of the possession of the requisite *knowledge* and *skill* for the efficient practice of Dentistry," is quite too farcical for serious consideration. Without doubt so neat a performance has given the reformers immense satisfaction, which must have been increased on finding, from a meeting of some American graduates in London, that they did not like it. It is to be hoped that these riled Americans will not push their grievance too far, for so much bliss as their discomfiture must engender might prove serious to some of the reformers. If the holders of D.D.S. degrees leave the matter to the sensible portion of the public they will, when the truth gets known, laugh the little gentlemen, who would be great without the elements of greatness, back into a more serious and sober state of mind. In the meantime the American degrees will, as before, be evidence of real qualification. And if the holders of these degrees could be induced to take the same jealous and narrow view of the matter as the reformers, they would rejoice that having got settled here, these gentlemen had unwittingly protected them against the inroads of any more of their only rivals.

The rest of the Act is taken up with arrangements for the examinations, all of which are to be under the control of some one of the authorities which have the power to grant medical degrees; the disposition of the fees received for registration; the removal of names from the register; the exemption from serving on juries; and so forth.

The number of Dentists registered in the United Kingdom are—

(A.) Licentiates in Dental Surgery of the following colleges :

	No.	Per cent.
(a.) Royal College of Surgeons of England ...	336	6.35
(b.) Royal College of Surgeons of Edinburgh	11	0.21
(r.) Faculty of Physicians and Surgeons of Glasgow.....	5	0.09
(s.) Royal College of Surgeons in Ireland ...	131	2.48
Licentiates in Dentistry	483	9.13

No. Per cent.

(B.) Persons, on their own Declaration, in <i>bond fide</i> practice of Dentistry :		
(a.) Separately	2707	15·18
(b.) In conjunction with the practice of Me- dicine	17	0·32
(r.) In conjunction with the practice of Sur- gery	11	0·21
(s.) In conjunction with the practice of Phar- macy	2049	38·74
(e.) In conjunction with the practice of Me- dicine and Surgery	20	0·38
(f.) In conjunction with the practice of Sur- gery and Pharmacy	2	0·04
<i>Bond fide</i> Dental Practitioners	4806	90·89
United Kingdom Dentists	5289	100·00

Thus we have 5289 persons registered under the Act, of whom 2707—just over one half—are entitled to register as being in practice as *bond fide* Dentists separate from all other occupations. Under this head are the holders of the D.D.S. degrees. And 2049, or nearly one-half, are persons who are pharmacutists, or mis-called chemists, or known in America, as keepers of retail drug-shops. These shop-keepers take apprentices who are to be taught pharmacy and Dentistry combined. Their practice is like nearly all that goes under the name of Dentistry here, and consists almost entirely in extracting teeth and making false ones. A few forceps and scalers and the appliances for doing vulcanite work is all they require. There are 483 “Licentiates in Dental Surgery.” As these men hold the only qualification recognised, the natural inference would be that they represented the *élite* of the profession. A greater mistake could hardly be conceived. Only a very small portion have passed through any Dental school; and nearly all of the holders of the Dental license, even of the College of Surgeons of England, obtained it by an easy examination *sine* curriculum. But when registration began to loom up, and the L.D.S. license began to have value, the standard was raised, which cut out a good many who had been clamourous for reform and hoped to profit by it. Not to be outdone, an arrangement was made with the Royal College of Surgeons of Ireland—the nature of which I leave the holders of the English licence, who hoped to have a monopoly of the legal qualifications, to describe, which they do in language neither choice or weak—whereby 131 persons were granted, by that

body, a licence to call themselves qualified dentists. It was a bit of sharp practice whereby diamond cut diamond, and the reformers have no right to complain if they were outdone in this sort of thing. But, while some of the holders of the Irish licence are very much better entitled to a qualification than almost any one of the English Licentiates, the manner in which the Irish College lent itself to this scheme, and the position and character of a large majority of the men it passed, has made the non-possession of its licence a distinction to be coveted.

(*To be continued.*)

DEATHS FROM CHLOROFORM.

A DEATH from this anæsthetic took place recently at the South Infirmary, Cork. It appears that the deceased, a man about fifty years of age, was admitted into the infirmary on the 20th February, for a dislocation of the hip, sustained three weeks previously. Two attempts at reduction, under chloroform, had been made before admission without avail. Having been placed on the operating table, the heart and pulse were carefully examined, chloroform was administered, and in about five minutes, without any struggling, he appeared to be ready for operation; but before the limb was touched alarming symptoms presented themselves, the countenance changing suddenly, while the pulse ceased. Electricity was at once applied, the lower limbs elevated, and every means of resuscitation employed, including artificial respiration, for nearly an hour, but without success. The quantity of chloroform used was about two drachms, and the quality of the drug was above suspicion. No post mortem was made, the coroner, on being communicated with, not considering it necessary. Every precaution seems to have been taken in this lamentable case; and it is remarkable in this, as in other instances, how small a quantity of chloroform may prove fatal.—*Lancet.*

THE 'Boston Med. Journal' (January 15th) furnishes the following account of a death from chloroform:—"G. A. N., aged twenty, a mechanic, of St. Johnsbury, Vermont, desired to have several teeth extracted. He was examined by a competent physician, and his heart and lungs were found in good condition. On December 26th he inhaled ether for one hour without the desired effect. On the 30th,

chloroform was inhaled from a napkin with a paper funnel; pulse 80, and regular; action of heart and lungs good. Patient soon went kindly under the influence of the vapour, and one tooth was extracted. Sensibility partially returning, the mouth was cleansed, more chloroform administered, and two teeth extracted. Sensibility again partially returned, and another tooth was extracted, *without* more chloroform. The patient then began to struggle and exhibit signs of pain. His head was brought forward and his mouth well cleansed. He was then returned to his former position, when he suddenly threw up his arms, rolled up his eyes, and ceased to breathe. He was instantly placed in an inverted position, his tongue drawn forward, and artificial respiration applied. The heart still continued beating, yet there was no pulsation at the wrist; face very livid, and no natural respiration. The heart continued to act very feebly and irregularly until forty-five minutes after breathing had ceased. Efforts were continued, until at the end of one hour the patient was pronounced dead. Artificial respiration, inversion of body, electricity, iced water, and all other known remedies were faithfully employed. Amount of chloroform used, three ounces by weight. No post mortem."—*Med. Times and Gaz.*

PATHOLOGICAL SOCIETY OF DUBLIN.

At two recent meetings of this society the following cases of interest to Dentists were shown :

TUMOUR REMOVED FROM LOWER JAW.—Mr. Stokes exhibited a tumour which he had removed from the inferior maxilla of a woman aged fifty-seven. The growth was of thirty-four years' standing, but had increased rapidly in size within the last six months. The specimen was referred to the Committee of Reference to report on its nature.

SARCOMA OF THE FACE.—Dr. Charles Ball presented an immense tumour which engaged the left side of the face of a man aged thirty-seven. The growth apparently originated in the lower jaw, and was in part a round-celled sarcoma with very small cells, in part a spindle-celled sarcoma. There was no glandular enlargement.

DENTIGEROUS CYSTIC TUMOUR.—Mr. Stokes showed an example of a dentigerous cystic tumour, or membranous cystic growth, which he had removed by external excision from the inferior maxilla of a lad aged fifteen. The growth probably owed its origin to the irritation of a carious tooth. The tumour was lined in its interior by a thick leathery membrane, from which a honey-like fluid was secreted. The patient recovered without any deformity.—*Brit. Med. Journ.*

Dental News and Critical Reports.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

WEDNESDAY, FEBRUARY 18TH, 1880.

W. A. N. CATTLIN, F.R.C.S., President, in the Chair.

AFTER the annual address given by the President, reported in this Journal, p. 233, of the issue for March 1st,

Mr. HAMILTON CARTWRIGHT opened a discussion "On the Means of Diagnosis afforded by an Examination of the Teeth and Mouth in Doubtful Cases of Constitutional Disease." He desired to show how some knowledge of Dental lesions might be of the greatest service to practitioners of medicine and surgery, whilst at the same time the qualified surgeon practising Dentistry might give valuable aid to his *confrères* in many dubious cases. The first subject he wished to draw the attention of the Fellows to was that of neuralgia connected more especially with the head and neck, which he divided into supra-orbital, infra-orbital, and facial, mental, and cervico-facial. His contention was that there is no such disease as idiopathic neuralgia; that a cause for it is invariably to be found, whether it be in connection with the impressions created on the nervous centres by the ovum in the womb, or by the diseased tooth. He then combated the theory that in ordinary cases there is any degeneration of the *posterior* roots of the spinal nerves, proving his hypothesis by many examples of sudden and complete cure on the removal of an exciting cause of pain. Though the teeth were very frequently the originators of a spurious kind of neuralgia, he thought that they were very often unjustly blamed and sacrificed. In speaking of the *loci* of the neuralgic pain he hazarded the theory that the symptoms of neuralgia were in no small number of instances owing to pressure on the main branch of a nerve caused by exostosis around the edges of the foramina through which they pass. He then gave the means of diagnosing between pain due to Dental causes, and that caused by lesion of the nervous centres or by that of special nerves, maintaining that by process of elimination it was easy to prove whether the teeth were at fault or not. He also alluded to the subject of gout, showing that there was a special condition of the teeth and oral mucous membrane by which the disease might be diagnosed, and even anticipated in hereditary cases. He then

entered upon the signs of syphilis seen in the mouth, as those of rickets, phthisis, and dyspepsia, concluding an exhaustive discussion with the signs of scrofula and struma in the glands, laying great stress upon the fact that a lack of knowledge of the elements of Dental Surgery, such as might be acquired in any general hospital, frequently was the cause of glandular abscesses being treated as scrofulous.

The PRESIDENT thanked Mr. H. Cartwright for the clear and able manner in which he had brought a very interesting subject before the meeting, and quoted several published cases to support Mr. H. Cartwright's theory, that the local cause of facial neuralgia was often to be found in a remote part, and *vice versa*. He instanced the case published by Sir Charles Bell, in which an ulcer of the duodenum had caused facial neuralgia, and others mentioned in Sir Henry Hallford's essays, in which osseous deposit on the crista galli of the ethmoid bone had produced the same effect. Perhaps the most interesting cases he could refer to, of pain in remote parts produced by irritation of the pulp or nerve of a tooth, was one published by the late Mr. Sercombe, in which severe spasm of the uterus was clearly traced by experiment to the exposed pulp of a tooth. He thought facial neuralgia was more frequently to be traced to the gouty diathesis and an anæmic condition of the blood than Mr. H. Cartwright supposed, although cases of neuralgia from constitutional causes were by far the most rare, and Dr. McCulloch had shown that they were common in malarious districts.

Mr. FRANCIS MASON dwelt upon the importance of distinguishing syphilitic from other diseases of the cavity of the mouth, and remarked that the commonest form of secondary eruptions in that cavity was found in a raised whitish patch, somewhat indented from contact with the teeth, and situated inside the cheek near the angles of the mouth on both sides. He believed that in the true syphilitic sore throat such patches were observed either over the tonsils, or extending as crescentic elevations on the soft palate. If the tongue were affected the patches were chiefly on the sides of the organ, and indented from contact with the teeth. He believed that this peculiar raised condition, due to the effusion of lymph, so characteristic of true syphilis, was much more commonly to be observed than the deep excavated ulcer. He further remarked that it was customary at the present day to attribute all cases of exfoliation of the palate and nasal bones to syphilis. His own experience led him to believe that in by far the majority of such cases there was no history of true syphilis.

The **PRESIDENT** assumed that Mr. Mason attributed necrosis of the bones of the nose and other parts more to the abuse of mercury than to syphilis, although he had not actually said so.

Mr. **MASON**, in reply to the President, coincided with him that the awful destruction of the bones of the face and soft parts, as occasionally seen in former years, but now, happily, illustrated only in our museums, was due not to syphilis, but most probably to the wholesale administration of mercury for its supposed cure. Lastly, he urged the importance of making a correct diagnosis, and instanced some cases in which the mere eruption of a wisdom tooth had been mistaken for syphilitic sore throat, and had been treated accordingly.

Mr. **EDGELOW** considered that neuralgia had always some positive cause, and narrated a case that had come under his notice at St. George's Hospital, in which exostosis of the fang of a tooth had caused severe pain in the hand, which subsided at once on the extraction of the tooth.

Mr. **RANGER** stated that in two cases which he had recently met with at St. Thomas's the same result followed. The first case was that of a young man who suffered extreme pain in the right arm and down to the hip-joint. He found a lower bicuspid very much decayed, and on destroying the pulp with arsenic the pain ceased almost immediately. The other case was that of hysteria in a girl, when on removing a lower bicuspid, much decayed, the same result followed.

Mr. **HAMILTON CARTWRIGHT** briefly replied.

FAULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

On the invitation of the President and Fellows of this Faculty, a conversazione was given in their hall on Friday evening, 19th March.

Besides a large number of the members of the medical profession from all parts of Scotland and the professors at the University and Anderson's College, the occasion was marked, for the first time, by the presence of the Dental Licentiates of the Faculty and the Lecturers and Examiners in Dental Surgery.

After the reception in the large hall by Dr. Buchanan, the venerable President, an exhibition of Dr. Crooke's experiments on Radiant Matter was given by Prof. Forbes, of Anderson's College; and Dr. Munro, of Kilmarnock, showed some remains of the ancient "Lake Dwellings" which he had been exploring near that town. The various

rooms of the hall were laid out with a display of objects of interest to the profession. Among these were a collection of surgical instruments and appliances, casts, optical and physiological instruments, microscopical specimens, &c., besides a copious display of the rarer works found in the Library of the Faculty. The Dental Licentiates, as well as the members of the medical profession who were present, seemed much gratified at meeting again with their fellow students and teachers.

THE ODONTO-CHIRURGICAL SOCIETY.*

At the annual meeting of this Society, held in the Edinburgh Dental Hospital, on Saturday, March 13th, Mr. W. Campbell, Dundee, in the chair, Mr. George Leslie, assistant to Professor Sir Wyville Thomson, read a communication on Comparative Dental Anatomy. Mr. Leslie illustrated the points of his lecture by means of a number of skulls of the lower animals, and received a hearty vote of thanks for his paper. Mr. W. Bowman Macleod then brought under the notice of the members a new combination anæsthetic which he had been using for some time past, in his private studies with very successful results. It consisted in combining the administration or the exhibition of ethylene dichloride with nitrous oxide gas. The manner of administration was simple. It consisted solely in placing a small piece of sponge, retained in position by a clip, within the way tube or supplementary bag of the nitrous oxide inhaler, leaving sufficient space on each side of the sponge for the free passage of the nitrous oxide into and out of the bag. Only a very small quantity of ethylene dichloride was required, viz. about half a drachm. The time of inhalation to produce anæsthesia measured from sixty to ninety seconds, and the time of complete anæsthesia—during which time the sensations were said to be more profound and agreeable than when induced by nitrous oxide gas alone—was from one and a half to two and a half minutes, which embraced a period of time sufficient to enable most of the operations required in the Dental surgery to be comfortably performed. He further mentioned that in all the cases in which he had used this anæsthesia—upwards of sixteen in number—there had been a complete absence of sickness, and only one case in which there might be said to have been the slightest approach to stertorous breathing. The pulse

* A more detailed account of this meeting and paper will appear in our next issue.

was slightly more accelerated than normal, but was full and strong, and there was that absence of lividity which renders administration of nitrous oxide so disagreeable, and in some cases repulsive to the onlooker—the lips alone, on the removal of the face-piece, presenting in any case, and that only occasionally, the faintest appearance of lividity. It had also this decided benefit over the single administration, that it produced a relaxation of the muscles, so contrary to the almost spasmodic rigidity induced by nitrous oxide. The society resolved to experiment with this anæsthetic.

STUDENTS' SOCIETY OF THE DENTAL HOSPITAL OF LONDON.

ORDINARY MEETING, MARCH 8TH, 1880.

ROBERT HALL WOODHOUSE, Esq., M.R.C.S., L.D.S. Eng.,
President, in the Chair.

Messrs A. F. Slace and Hern were proposed for election at the next meeting.

Casual communications were made by Messrs. Robbins, U. A. C. Harris, and D. L. Harding, L.D.S.

Mr. U. A. Carpenter Harris then read his paper entitled "Embryonic Thoughts on Filling."

MR. PRESIDENT and GENTLEMEN,—At the commencement of my paper I wish it to be understood that I do not intend giving you an elaborate treatise on the conservative treatment of the Dental organs by means of stopping, but merely to lay before you that which may form the basis for a discussion on the subject, in which I hope the individual experience of each member, and the knowledge each may have acquired from our seniors, will be freely brought forward.

In the subject under consideration, the methods practised by different operators vary considerably, and the theories advanced by the advocates of the several methods necessarily vary with the plans they are intended to support.

As men of strong common sense and wide experience are found in the ranks of each school of theory and practice, it follows that arguments of at least apparent weight are urged on behalf of each; hence arises a tendency to confusion and uncertainty as to the plan he had best adopt, in the mind of the student.

Now, in the first place, it must be borne in mind that the results obtained by practical experience, provided the experience is that of one possessing fair powers of observation, skilful manipulation, and attention to detail, are of far greater

importance than any theories, however plausible they may appear, and however they may seem to be supported by facts of chemical and physical science; though it may be said that theories, based on well ascertained scientific facts, stand a very good chance of being confirmed by the results of experience.

In the next place, let us remember that practice and theory should always go hand in hand, and that methods of practice based on what is known as mere "rule of thumb," unconfirmed by and perhaps even opposed to theory, will not recommend themselves to those who wish to base their practice on true principles, and will not tend to the true advancement of our professional knowledge, an advancement which depends entirely on the increase of our acquaintance with the scientific principles involved in the question with which we have to deal. I think that we as "students," in the ordinary sense of the word—though the oldest practitioners are ever ready to call themselves students—have to apply ourselves, during our time at the hospital, in gathering information from all sources, as to the methods adopted by the best operators of the various schools of practice and theory, and in applying that information to our hospital practice, testing and proving what we have learnt, and endeavouring to make ourselves at home in every method of value; that in after life, in the course of our daily private practice, we may be able to suit our work to the various patients that may require our attention, and to the varying exigencies of time, money, and circumstances, which will conquer and render helpless him whose narrow experience is confined to some one course.

This leads me to say that I think we cannot be too careful to remember that great difference exists between our present routine of practice at the Dental Hospital and that which it will be our lot to meet with in private.

Now we can, so to speak, do what we like with our patients, they, feeling that they are indebted to the charity of the institution, submit, and indeed have no choice but to submit, to whatever method of operation we or our instructors think fit to employ. You are ready, no doubt, to argue that, *that* is as it should be, viz. the practitioner managing his practice, and not the practice managing him; but the public in these days know too much on the subject, and will have their say, though it be at the best a superficial, and often an erroneous knowledge which they possess. Again, time is no object to us, and in many cases a number of visits, as no fees are to be paid, is thought little of. In private practice, on the other hand, people, in a large majority of instances, will not

submit to the pain of many forms of operation; and the trouble and inconvenience entailed by many visits, lengthy sittings, even with small fees, they cannot endure; and when fees remunerating the operator are added, the objection is not *lessened*, and patients feel—at any rate at first—that they are under no obligation to the Dentist, and know that if *he* will not yield to their wishes, they can easily go to some one who *will*. The bulk of patients in an ordinary practice compel the Dentist to modify the rigid system he may as a student have resolved to pursue. Again, in the bustle of a practice of even moderate dimensions, the Dentist, unless assisted, will find it difficult, indeed impossible, to devote sufficient time to each individual case to perform very elaborate operations: of course it may be said “But if the elaborate operations are unquestionably the best, ought not the operator to insist on performing them, even if such a course compels him to seriously curtail the number of patients seen in a day, and to considerably raise his standard of fees?” This point I will refer to further on. Perhaps you are thinking I am spending too much time on general remarks, but I feel they form some apology for my venturing to bring this subject before you at all to night, and, moreover, I regard such considerations as second only in importance to the subject of the operations themselves.

We may consider three principal systems of operating, which we will call:

1st. The method practised in America, and by some men of eminence in this country.

2nd. The “New Departure.”

3rd. The ordinary English method.

First, then, the American system. This consists, in brief, in the use of cohesive gold in every case—at any rate, as the final stopping. The details of the method vary with different practitioners, as to form of gold, kind of condensing instruments, &c., employed, but in principal it is always as follows:—The cavity is to be prepared with the utmost care, hold being obtained by means of retaining points, grooves, &c.; all frail edges are to be cut away, also all corners in which direct force cannot be brought to bear; the edges are to be slightly levelled and carefully polished, so as to leave no small cracks or corners which will not admit the gold readily, and so tend to cause leakage. Then, with a selection of plugging instruments, operated by a mallet—hand, automatic, electric, or one of the other forms—the gold made up in the form approved of by the individual operator, and carefully annealed, is thoroughly impacted, piece by piece, against every part of the walls of the cavity, so as to be brought into

perfect apposition with them at all points. Each piece of gold, as introduced, is condensed with equal care against that already *in situ*, so as to become welded into a solid mass with it, the gold in the form of tape is beaten over the edges so as to be in absolute contact with them everywhere, and the original contour of the tooth having been restored in the precious metal all surplus gold is removed by files, burrs, &c., and the surface carefully polished.

Perfect contact between gold and tooth at *every* point is absolutely essential, the gold and the enamel must be so exactly flush with one another that a fine point passed backwards and forwards across the fillings will nowhere find a hitch at the point of junction of filling and tooth; and every portion of the filling must be thoroughly condensed.

Now, it will hardly be disputed that in suitable cases (*i.e.* in healthy persons, with teeth of strong and normal structure) this method, if *perfectly* carried out, gives the best results both in appearance and efficiency; though in the latter particular the advantage on the side of cohesive gold is not of *great* weight. But it is essential that every step of the operation should be most thoroughly performed; that there should, consequently, *be no hurry*, and that the operator should be in such a state of body and mind that he can devote himself completely to his work. But how often, in the bustle of an ordinary practice, can a Dental surgeon, unless he has a co-operator, allow two or three hours for the performance of a single operation? How often, supposing he *could* give the time, could he go on without being interrupted and worried by other patients arriving? And how often it will happen that such operations must be performed during the latter half of a day's work, when previous labour, and perhaps some deficiency of healthy tone, will have unfitted a man for the thorough carrying out of a method which demands the employment of the utmost *nicety*, of lightness of touch, of untiring energy and equanimity of temper. And thus, from one or other cause, some slight flaw is left, which mars and speedily ruins the work of hours. Again, it would manifestly be absurd, and the part of a charlatan, to absolutely *guarantee* the durability of any stopping; your *best work* may fail in as short a time as an amalgam put in at a far less expenditure of time and labour, and the extra expense of all kinds has availed nothing. As likely as not your patient feels convinced that he or she has experienced loss of time, inconvenience, and expense for what has proved a failure, and if *that* be the best you can do for them, will lose faith in filling altogether. Putting all these considerations aside, indeed, is it right to submit a

patient to these things when you *cannot* guarantee a durable result? Yet other considerations arise: the bulk of people in this country at least will not pay the fees necessary to remunerate the Dentist for such an operation, and very many, if they can spare the money and the time, will not put up with the pain and inconvenience.

Thus your practice must be confined to a limited number of individuals, who fulfil the necessary conditions; and how about the luckless majority? Or, on the other hand, are those to be envied who go through all this for a doubtful result?

The second system, the New Departure, I purpose saying only a few words about, as its advantages are so ably set forward in the numbers of the 'Dental Cosmos.'

The advocates of this method condemn the use of gold in a large number of cases, although they do not repudiate it entirely. They largely employ plastic filling materials, and the pith of their teaching appears to be: "Select, according to your knowledge and judgment, that material in each individual case which appears to you to offer the best prospect of preserving the tooth and giving comfort to your patient."

The "incompatibility" (real or supposed) of stoppings with tooth substance, furnishes one of their great arguments against gold, which in many cases evinces this incompatibility to a high degree.

According to Flagg, the design of the New Departure is to effect that "revolution" in Dental ideas which shall eventuate in its "coming to pass" that those who try to *save teeth*, and who are successful in saving teeth comfortably, gently, beautifully, and satisfactorily, shall be ranked as "first class" just "in proportion" as they do this, and not in proportion as they are able to pack gold; and inversely, that those who inflict suffering, consume time, entail expense, fail from "defective manipulation," and employ artificial substitutes, shall be ranked as "second class," even though their skill in working gold shall rival that of all their brethren, and the "artistic beauty" of their results shall be "worthy the genius of a Michael Angelo!"

Thirdly, the "English" method. Under this head come the modes of stopping used by the majority of the good Dental practitioners in this country. In speaking of it, my remarks shall be brief.

Gold is extensively used; but the large "contour" fillings, so prized in America, are, for reasons above stated, rarely done. In fact, the bulk, perhaps, of the gold used is non-cohesive, and cohesive gold is employed only in cavities of

moderate size, and whose walls are not of sufficient extent to hold in, or of such strength as to admit of the insertion of, a soft or non-cohesive plug.

Cavities of great extent in back teeth are commonly filled with *amalgam*, and in the front of the mouth oxychloride fillings and the best forms of gutta percha are frequently employed. Such accessories as the rubber-dam, and even the Dental engine, are not so insisted on as in the States, owing to the objection many patients have to the use of them. A large number of teeth, the preservation of which would be attempted in America, are sacrificed to the forceps in this country.

And why all these differences? To a large extent because in this country the Dental practitioner gives way to the wishes of his patients to a much greater degree than in America. And why does he yield? If every good Dentist agreed to make patients submit to the employment of such aids as the rubber-dam and engine whenever he found it convenient and advantageous to use them, these patients must give in or lose their teeth, as to go from one man to another would be of no advantage to them in the way of avoiding these disagreeables. As the case stands, if a practitioner insists on carrying out his own wishes in such matters, a large number of his patients will desert him and go to some one more considerate for their comforts. Again, people here will not endure the long operations, or pay the heavy fees entailed by the American system. Yet another reason may be advanced, *viz.* that our English Dentists are not so thoroughly convinced of the unquestionable practical superiority of the principle of cohesive gold work, as to feel justified in supporting it unreservedly.

Now, I will ask your permission to sketch out my "embryonic" ideas of what our practice in stopping teeth should be, and I wish it to be understood that I do so, to a large extent, in order to draw out the freely expressed opinions of those present.

In the first place, I may remark that one of the reasons given above as modifying the practice of English Dental surgeons has its origin in the fact that in this country the public are not nearly so well educated in Dental matters as they are in the United States. They do not realise the importance of preserving their Dental organs; they do not perceive that it is important to use various accessories to enable us to do our work as perfectly as it can and ought to be done. I need hardly say that Dentistry is only just taking its proper position in the list of professions. When it has reached such a status in public opinion as it has in America,

we may fairly hope to have our patient's mouths more completely under our control; and, though I would be the last to advocate an adoption of the "gold, and nothing but gold, and cohesive gold too," theory, yet I think it will be an advantage to be able to do what we really wish for those under our care. I feel it is our duty to do our part in endeavouring thus to educate the minds of the people at large.

In cavities having strong walls on all sides, as in the crowns of molars in the proximate surfaces of teeth, I would advocate the use of soft gold, introduced unannealed in one of the many ways known to the profession. In many cavities a good plan will be to introduce cylinders of foil, condense them well against the walls, and fill up in the middle till no more gold can be forced in; then burnishing down from the top or the middle, may be filled with cohesive foil, which forms a solid "keystone," which holds the whole filling in effectually. In very small cavities a star formed of strips of tape, taken up one after another on the end of a plugger, may be forced in, the centre going to the floor of the cavity, and the ends then being tucked in all round. This will be found speedy and effectual. Two or more stars may be required in a somewhat larger cavity; or a cylinder just small enough to enter may be introduced, a plugger forced into its centre, and the hole thus made filled with a more solid pellet, and the whole condensed from the surface.

Cohesive gold I would confine to such small cavities as those just mentioned, which can be rapidly and easily filled with this form of gold; to cavities in front, when the patient can and will fulfil the necessary conditions, and does not mind the appearance of the gold; and to finishing some kinds of soft gold fillings, so as, for instance, to get a good hard masticating surface; provided you do not depend on the adhesion of the cohesive to the non-cohesive gold to hold the former in.

As to building up huge contour fillings in the front of the mouth, I think it far better practice to cut off the diseased crowns and pivot on artificial ones; and where this would be a pity, I would employ gutta percha (the best) or an oxychloride—preferably the gutta percha as it is non-irritating, and has no tendency to fail at the cervical margin. Its only faults, indeed, as stated by Dr. Flagg, are its tendency to shrink and cause "clouding" of a thin-walled tooth, and its inability to resist much friction and attrition. The oxychlorides, as we all know, are far more liable to speedy disintegration, and are much less valuable as permanent fillings. It remains to be seen how Weston's insoluble cement will last; it seems to promise well. Large cavities

in bicuspid and molars are best treated with amalgam. A first rate amalgam (as Fletcher's), thoroughly well inserted, will often outlast by a very long time a gold stopping, even when inserted with much care and skill.

In conclusion, gentlemen, I would submit that, in spite of the long-continued labours of an army of workers in this province of Dental Surgery, much remains to be done; and that our capabilities of saving teeth are by no means all that can be desired; in fact, if I *may* so speak, they are somewhat embryonic, for we should, I think, look and work for the time when artificial teeth, so much valued at present by both Dentist and patient—shall be only the last resource of an *unfortunate*, doomed by inevitable fate to lose the "priceless pearls within the ruby portals;" and when all shall consult the Dentist as regularly as *he*, leaving operating chair and engine behind, seeks with each returning summer renewed health and vigour for his work.

Mr. President and gentlemen, I thank you much for your kind attention.

This elicited a very animated discussion from the members, in which the President, Messrs. L. Read, L.D.S., Harding, L.D.S., Magor, L.D.S., Maggs, L.D.S., Cook, L.D.S., Robbins, C. D. Davis, Alexander and Rees Price took part.

Mr. U. A. Carpenter Harris having replied, a hearty vote of thanks was awarded him for his communication.

Miscellanea.

SHARPENING DENTAL BURRS.

MR. M. A. RICHARDSON, of Bridgeport, Conn., United States, has patented an improved process and apparatus for sharpening Dental burrs and other similar revolving cutting tools.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

THE next Ordinary Meeting of the Society will be held on Monday, April 5th, 1880.

Discussion on paper, "Deformities of the Upper Jaw; an Attempted Classification of them," by Oakley Coles.

Casual communications from Mr. H. Sewill, on "Dental Diseases as a Cause of Epilepsy;" from Mr. G. H. Harding, on "A Simple Contrivance to be employed in the Insertion of certain Gutta-percha Fillings."

F. CANTON, *Hon. Sec.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. CHRISTOPHER HEATH, Consulting Surgeon to the Dental Hospital of London, has been elected Chairman of the Board of Examiners in Anatomy and Physiology.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

MR. FRANK EARLE HUXLEY, of Birmingham, having passed the necessary examinations, obtained the Diploma of Dental Surgery during the January sittings of the examiners.

APPOINTMENT.

ED. FOTHERGILL, L.D.S. Eng., late Assistant House Surgeon to the Dental Hospital of London, to be Dental Surgeon to the Newcastle-upon-Tyne Infirmary.

Obituary.

THOMAS BELL, M.R.C.S., F.R.S.

[WE hope in our next issue to be able to give a more professional obituary notice of this gentleman, who, however he may have differed in opinion from the leaders of the present race of Dentists, was unquestionably a man of mark in his day, and helped, by his own unaided efforts, to raise Dental surgery to the position it now holds, of—to use the words of Cardinal Wiseman, addressed to us—“a Liberal Profession.”

Pending the more strictly professional notice of this eminent Dentist, to whom the medical journals have done scant justice, we append the following interesting social notice from the ‘Daily Telegraph,’ of one who was as distinguished in general science as in the specialty he practised and adorned.]

Countless are the minds upon which the ‘Natural History of Selborne,’ by the Reverend Gilbert White, has impressed an ardent love for the ways and economy of nature. Scarcely a year passes without giving us a fresh edition of a book which is to naturalists what the ‘Complete Angler’ of Izaak Walton is to lovers of the rod; and not many days ago an aged enthusiast, who had devoted the last twenty years of his honorable and industrious life to the labours of Gilbert White, expired in the old house at Selborne, in

Hampshire, which, so long as its bricks and timbers hold together, will always be a shrine visited by pilgrims of congenial minds from all parts of the earth. For men who "hate contentions and love quietness and virtue" the little Hampshire village will never cease to possess charms, enhanced by the beautiful forest trees in which Gilbert White revelled. Selborne lies in a long valley, overhung on one side by "the Hanger," which is thickly clad with beeches, "the most lovely of trees," as the historian of the ancient village tells us, "whether we consider its smooth rind, its glossy foliage, or its graceful pendulous boughs." In the main street stands the famous house in which, on July 18, 1720, was born Gilbert White, the eldest of five brothers. His grandfather had been Vicar of Selborne, and the dwelling in which Gilbert White was born passed successively through the hands of his father, John White, a barrister, of Gilbert himself, and of Benjamin, his brother, who had been a publisher. Thirty-six years since, this house was sold, and its purchaser was Professor Thomas Bell, F.R.S. This worthy and learned gentleman, the son of a surgeon, was born at Poole, in Dorsetshire, on October 18, 1792, and became a member of the Royal College of Surgeons in 1815, devoting himself with energy to the study of Dental surgery. Thomas Bell soon obtained a large and lucrative practice in the City of London, to which he adhered until he had accumulated sufficient fortune to justify him in turning his attention to the pursuit of those zoological investigations in which his whole heart and mind were engaged. It was in 1832 that he brought out his first book, called 'Monograph of the Testudinata,' followed in 1837, by his 'History of British Quadrupeds,' which has never ceased, since its first appearance, to be the leading text-book and classic upon the subject of which it treats. In 1849 appeared from the same hand a 'History of British Reptiles,' and in 1853 a 'History of British Stalk-eyed Crustacea,' which, in the opinion of experienced zoologists, is the most valuable work ever produced by Professor Bell. In addition, he joined the Linnæan Society in 1815, and was its President from 1853 to 1861; he was elected Fellow of the Royal Society in 1828, and became its secretary from 1848 to 1853; he was appointed Professor of Zoology at King's College in 1832, and Honorary Fellow of the Royal College of Surgeons in 1844, and, finally, he was a honoured member of various other scientific societies at home and abroad.

Such a man, blessed with excellent health and indefatigable industry, was not likely long to allow his pen to

remain idle. His contributions to the 'Zoological Journal' commenced in 1825, he being then still a practising Dentist, and between that year and 1860—when, at sixty-eight years of age, he retired to the country "to prepare himself," as he said, "to pay the debt of nature"—he never ceased sending papers to be published among the 'Proceedings' of the Linnæan and Zoological Societies. These papers, being of a highly scientific character, and possessing, without exception, special and peculiar merit, were chiefly on the subject of Tortoises, Reptilia, and Crustacea. At the very moment when years, accumulated upon his head, had led him to sigh for a rural retreat wherein he might end his days in tranquillity, the home of Gilbert White at Selborne came into the market. Most persons are familiar with the indignant scorn outpoured by an American poet upon the English clergyman who, having become the temporary possessor of Shakespeare's house at Stratford-upon-Avon, avowed his intention to cut down the immortal mulberry tree. But the successor of Gilbert White at Selborne was made of very different clay, and if it might be permitted, without presumption, to conceive that the dead take interest in the sublunary affairs of the world they have quitted, the shade of the pious clergyman who "saw the finger of God in all created nature" might well be imagined to have left its quiet grave in order to bid a loving welcome to Thomas Bell when, as proprietor, he first stepped across the threshold of that house in which the historian of Selborne had dwelt for half a century, and which was destined to afford shelter for twenty years to his reverential votary and disciple. There in 1860 stood the ancient ivy-covered home with its steep many-tinted roofs, with the "great parlour" from which Gilbert White loved to survey the adjoining "Hanger," and with water-colour drawings upon its walls reproducing some of those "engaging views" in the neighbourhood which were once his delight. In the garden opening at the back of the house still might be found the sun-dial which Gilbert White had set up and used, and the "great spreading oak" round which the fern-owls "showed off in a very unusual and entertaining manner." Here too was the big American juniper—which, much to the astonishment of its owner, who had no practical acquaintance with the severity of a Virginian winter, gallantly withstood the Arctic cold of the terrible English winter of 1776—offering the same umbrageous and evergreen shade to Thomas Bell that it had offered to Gilbert White before him. As he passed from his garden to the church, the new occupant of an historical house might pause to examine the

"Plestor" or "Play-stow"—an open space granted to the Priory of Selborne some six centuries since. In the churchyard itself—a scene so tranquil and peaceful "as," in Washington Irving's words, "to make a man in love with death"—might be seen the venerable yew tree which plays so large a part in Gilbert White's pages, and near which the gentle naturalist sleeps his last long sleep.

It may readily be imagined that for such a spirit as that of Thomas Bell the spot and its associations possessed irresistible attractions. That he was worthy to succeed Gilbert White and, as it were, to sit in his chair, will be emphatically pronounced by thousands of visitors, English, American, and foreign, who, during the last twenty years, have repaired to Selborne, and done homage at the shrine of him who made the village immortal. To all who came Professor Bell extended the warmest and most sympathetic of greetings, and nothing gave him more pleasure than to show the very haunts and spots most frequented by his predecessor. The swifts, as they coursed each other with eager wing through the summer air, appealed with their shrill cries to both naturalists alike, and the "rocky hollow lanes" which lead to Alton and to Woolmer Forest were full of never-ending charm and interest for both. The white owl, with its "whinny," which is heard so far upon a peaceful night, was watched with the same tender curiosity by the naturalist who has just passed away as by him who left Oriel College in 1744 to take up his habitation in the house where he died, full of years and tranquil honours, in 1793. The birds flock still to that garden from which, a century since, Gilbert White "paid good attention to their manner of life," and still "the Hanger" offers its inviting slope to be climbed by visitors who from its summit may obtain a glorious prospect of the dales and downs of Surrey and Sussex. Having lived here for a couple of decades in undisturbed happiness, one of the most estimable of English naturalists has at last expired, in his eighty-eighth year, under the same roof which for half a century had sheltered Gilbert White. Nor, in contemplation of two such peaceful and useful lives, is it possible to doubt that the ordinary objects of worldly ambition, such as power, rank, and wealth, are far less calculated to secure true happiness. "To investigate a moss, a fungus, a beetle, or a shell," says Swammerdamm, "I have turned aside, and left lust, vanity, envy, and greed behind me;" and they who, wisely following the examples of naturalists, devote themselves through life to the humble and patient study of the Creator in His works, will escape the heartburnings, the disappointments, and animosities to

which the pursuit of riches and fame in other fields are but too certain to expose them. This is the spirit in which Thomas Bell's beautiful edition of 'White's Selborne,' published in 1877, should be handled and studied—as a work, that is to say, which serves to show that even the commonest objects surrounding us in our daily country life are “ordered by an intelligence so wise as might confound the atheist's sophistries.”

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our
Correspondents.]

JOHN TOMES, Esq., F.R.S., ON MR. CATTLIN'S ADDRESS
AS PRESIDENT OF THE ASSOCIATION OF SURGEONS
PRACTISING DENTISTRY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Mr. Cattlin's address having found a place in your Journal, I beg that you will publish the reply which I have found it necessary to make thereto, and of which I enclose a correct copy.

I am, &c.,

JOHN TOMES.

Caterham, Surrey.

SIR,—Mr. Cattlin, in the address which appeared in the Journal for March 1st, made use of my name in connection with the Dentists Act in a manner which leaves me but little choice as to a reply. I hope you will allow me, by the relation of facts, to rebut the charges which I think Mr. Cattlin would have hesitated to lay at my door had he known all the circumstances attending the passing of the Dentists Act.

I will first take the allegation of “hasty legislation.” Prior to its introduction by Sir John Lubbock, a draft of the Dentists Bill was sent (November 2nd, 1877) to, and approved by, the Royal Colleges of Surgeons of England and of Ireland, and the Faculty of Physicians and Surgeons of Glasgow. The Royal College of Surgeons of Edinburgh approved the Bill, subject to certain amendments, many of which were made, and the College has acted upon the powers given by the Act. The Bill was submitted in November, 1877, to the President and members of the Medical Council, which subsequently, in considering the Dental sections of the Lord President's Medical Bill, recommended that certain clauses from the Dental Bill should take the

place of one or other of the Dental clauses of the Government Bill. On June 8th, 1878, the Parliamentary Bills Committee of the British Medical Association, after hearing advocates for and against the Bill, rejected the restrictive motion proposed in the interest of Mr. Cattlin's party, resolved "That this Committee approves the Dental Practitioners Bill as now amended." Eleven hundred and fifty Dental practitioners petitioned Parliament to pass the Dentists Bill. Included in the foregoing number were seventy qualified medical practitioners practising Dental surgery. Subsequently, sixty-eight qualified surgeons or physicians practising Dental surgery memorialised individually the members of the House of Commons in support of the "Dental Practitioners Bill, which has been considered with very great care," &c. The Bill, when in Parliament, was more than once printed in each of the Dental journals. The views of a committee of the Association of Surgeons practising Dental surgery were not less extensively circulated. Surely, after this amount of consideration and subsequent approval by the surgical corporations and other medical bodies, and by the Dentists themselves, the passing of the Act cannot be justly described as the result of "hasty legislation."

Then Mr. Cattlin says that "the Dentists' Register separated Dentistry from surgery." Before the passing of the Dentists Act, not one Dental practitioner in five—or, as it would now appear, scarcely one in ten—had received any medical education or had any connection with the medical profession. Dental was an outlying and uncontrolled branch of general surgery. The Dentists Act places the Dentist absolutely under the control of the medical authorities. His education, his examination, and his registration, one and all, are governed by the General Medical Council and the surgical corporations; and if the conjoint scheme come into operation it will, by the terms of the Dentists Act, apply equally to the education of medical and of Dental practitioners. Can anything be more strange than to say that this very close association is "a separation of Dentistry from surgery," and in face, too, of the fact that the connection hitherto was voluntary and accepted by not one fifth of the *bonâ fide* practitioners.

The next point urged by Mr. Cattlin is that a person should be a surgeon first and then a Dentist. The paragraph in which this opinion is embodied is too long for verbal quotation. It may be put in other words—That the education of the Dental surgeon shall exceed by two years the education of the general surgeon. For it has been

conclusively shown that the medical and the Dental curricula cannot rightly be included in the same four years. Almost all the Dental practitioners who have been publicly engaged in teaching Dental surgery, to the number of fifty (twenty-nine of whom held registrable medical qualifications), signed a memorial to the Medical Council, declaring "that, in our opinion, the requirements of the Dental curriculum originated by the Royal College of Surgeons of England are not in any respect in excess of the educational necessities of the Dental practitioner." This curriculum, in its nature three fifths medical and two fifths Dental or special, has been approved by the Medical Council and is adopted by the four surgical corporations which grant Dental qualifications. It requires that of the four years to be devoted to professional studies two shall be given to Dental hospital practice; practically, that the mornings of two years shall be devoted to one part of the required technical knowledge—the acquirement, under competent teachers, of manipulative skill in operating upon the teeth, &c., and it cannot be rightly contended by competent practitioners that less time will suffice. It is admitted on all hands that the four years allotted to medical education, if well employed, are not more than sufficient for the attainment of the knowledge requisite to competence; and if this time be not well employed, failure must be the result at the examination table, even to the extent of a fourth, sometimes a third, of the candidates for diplomas. How, then, can another subject which takes two years of special study for its acquirement be thrust into the more than occupied four years of medical education? If it be thus thrust in, the general or the special education must be neglected; and to use the words of the President of Harvard University, when treating of the acquirement of a medical and a Dental diploma within the same three years, "one or other of the degrees is lowered to a deplorable extent."

Now, is it reasonable to require of the Dental practitioner a higher degree of professional education than is required of the medical practitioner? Yet this condition would be enforced if the two qualifications are to be honestly gained. Would it be possible to enforce this unreasonable educational cost in time and money upon each of those who will be required to fill up the life-waste of the existing three or four thousand Dental practitioners? Surely not. We have nothing to do with the exceptional few who are favoured by unusual talent or pecuniary resources. If too little be asked of them, they can distinguish themselves by

adding more. The necessary medical and Dental knowledge may be required of the rank and file, and the Dental licentiateship provides this, concerning which qualification I may be allowed to quote from Professor Erichsen's admirable address on Dental education, wherein he says ('British Journal of Dental Science,' August, 1879, p. 421):—"The examination which is required by the College of Surgeons embraces all those scientific and practical subjects which it is necessary for the Dentist to know; and although many Dentists go beyond this, and take the membership and even the fellowship of the College of Surgeons, I can scarcely look upon such an extension of professional study as being necessary to the great body of your profession. In fact, in order to obtain the membership of the College of Surgeons, it would be necessary for the Dental student to acquire an amount of technical surgical knowledge which he knows will be useless, and which he intends to throw aside, and to forget as soon as he possibly can after he has obtained the diploma for which alone he has sought to acquire it. I think, therefore, that the L.D.S. diploma may be considered amply sufficient as a guarantee of the professional position and competence of any man who holds it."

In truth, the person licensed to practise Dental surgery is and must ever be the Dental surgeon; and if he add to his licentiateship a general qualification, he will be the surgeon and Dentist. The one term indicates a special surgical education, the other a general surgical qualification to which a special qualification has been added. The distinction between the two titles is clear and sufficient. Bearing in mind that the question of title with a full knowledge of the subject has been twice considered and determined by the General Medical Council, once by the Parliamentary Bills Committee of the British Medical Association, by Parliament when the Dentists Bill was in Committee, and by the surgical corporations in the wording of their respective Dental diplomas, I would ask, Is it, in the supposed interest of a limited number of persons, wise to prolong a struggle for the purpose of perverting the use of language to the extent of declaring that a person licensed to practise Dental surgery is not, when in the practice of his calling, a Dental surgeon? The many will not accept wrong at the hands of the few; and the expenditure of energy in the cultivation of useless professional discord is greatly to be deplored.

Mr. Cattlin's objection to registration seems by no means general, for a very large number of those Dentists who hold medical qualifications appear in the columns of the

'Dentists' Register,' sometimes associated with the words "in practice with surgery, or medicine"; sometimes without this distinctive notification.

I have no concern with Mr. Cattlin's dream-born scheme of a new edition of Dental reform. My purpose has been to show that the course pursued by the party with which I have acted, has been from first to last (throughout a period of over twenty years) consistent with common sense, common justice, and the interest of the public; and that it has been actively supported by the great majority of those Dental practitioners—with and without medical qualification—who have taken any part for or against the consolidation of our calling into a recognised branch of the medical profession; furthermore, that, in preference to adopting any fanciful scheme of professional grandeur, a measure was attempted capable of being carried into effect. In the draft of our Bill, the lines of the Medical Act of 1858 were followed in respect to both education and registration, and amendments were introduced by the Government rendering the Dentists Act conformable with any future Medical Act. If, as alleged by Mr. Cattlin, harm has been done to some of my professional brethren by the course I have followed, the injury has certainly been self-inflicted, and is the inevitable consequence of their unwillingness to accept the ruling of competent and independent tribunals, and of the great majority of their fellow practitioners.

I regret having occupied so much valuable space upon this time-worn and very threadbare subject, but I could not, in justice to those I have represented, or to myself, remain silent under so grave an accusation as that preferred against me by my old friend Mr. Cattlin.—I remain, your obedient servant, JOHN TOMES.—*Brit. Med. Journ.*

To Correspondents.

ANSWERS TO CORRESPONDENTS.

"SINE L.D.S."—You had better apply to Mr. Trimmer, Secretary of the Royal College of Surgeons of England.

"CYNIC."—The advertising individual you refer to never was a pupil of Mr. C. J. Fox; had he been he could show his indentures, but he was employed for a short time at a small salary to clean out the workroom and cast models.

Communications received from W. Marsh, J. Jamieson, J. T. Browne-Mason, Arthur Klugh, Ash & Sons, "Common Sense," Edward Fothergill, John Tomes, F.R.S., W. Bowman Macleod, G. Q. Colton (New York), Thos. Fletcher.

British Journal of Dental Science.

No. 294.

LONDON, APRIL 15, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

ON AFFECTIONS OF THE EAR ARISING FROM DISEASES OF THE TEETH.

By SAMUEL SEXTON, M.D.,
Surgeon to the New York Ear Dispensary and to the New York
Eye and Ear Infirmary.

(Continued from page 318.)

THIS most superficial presentation of some of the affections of the teeth scarcely serves as an introduction to the interesting pathological field to which so many aural diseases owe their origin, but it is hoped that from what has been brought forward a better knowledge of the etiology of aural diseases may finally be obtained. From a careful study of some of these affections I have thus been led to the conclusion that they may arise from causes not indicated by the accepted etiology; such are diseases of the meatus auditorius externus known as seborrhœa, obstructing accumulations, diffuse and circumscribed inflammations, and inflammations of the middle ear. Any treatment of these affections, based on local symptoms alone, will frequently be unavailing; and success can hardly be assured without attention being given to their true causes. A familiar illustration of the *modus operandi* of the above-mentioned affections of the meatus is witnessed where the nervi-vasorum supplying the vessels that go to this region connect by their filaments through some of the sympathetic ganglia with the nerve coming from a diseased tooth. The result of the irritation of the dental filament of the fifth pair is the transmission of the irritation along the nervous route thus established to the ear, where dilatation of the vessels takes place. The vessels going to supply the meatus are thus distended beyond their normal state, and congestion, acute or chronic, takes place. Pain in the tissues is then experienced as a result of an acute attack, or, on the other hand, where chronicity is the condition, pain is less marked. We have here to do, probably, with a reflex

irritation conveyed to the anterior auricular branch of the temporal artery in its ramifications on the walls of the meatus auditorius externus with resulting hyperæmia of the part. One sequence of active hyperæmia may be diffuse inflammation of the meatus; another may be circumscribed inflammation; or chronic hyperæmia may exist, resulting in an unusual secretion of cerumen. The latter condition remaining active for a long period of time, the meatus may be completely occluded by the hyper-secretion, and intermittent periods of excitation will most likely be attended by exfoliations of epithelium, which give rise to ceruminous plugs composed of alternate layers of epithelium and cerumen, a transverse section of which will present the characteristic annular appearance of an exogenous growth.

When a feruncular inflammation is the consequence of this vaso-motor action, the stage of hyperæmia has of course been passed, and we have to deal with a true inflammatory process, the persistency of which is well known. The treatment of these boils in the ear is less likely to be unsuccessful when their remote cause is ascertained. Hyperæmia, thus induced in the external auditory meatus by reflex action, frequently manifests itself by a slight increase of the normal ceruminous secretion, or by an itching with a desire to scratch the parts; or there may be a distressing feeling of formication deep in the ears.

The fact that the conduction apparatus in many of these diseases of the meatus is but little affected seems to strengthen the hypothesis of their origin, for the tympanum receives its principal blood supply from the tympanic branch of the internal maxillary and the stylo-mastoid branch of the posterior auricular, sources independent of the vascular supply of the meatus. It is, however, quite unlikely that any serious aural trouble can long exist in any given region without neighbouring tissues being more or less involved. It is a significant fact, worthy of mention in this connection, that the sympathetic aural affections of infancy and youth are principally confined to the middle ear, and it should be borne in mind that the entire nervous distribution for the milk teeth, together with their alveoli, &c., give way to another development belonging to the teeth that are destined to be permanent.

Affections of the root membrane may arise from the use of mercury, which acts through the gums, and may affect a whole set of teeth, especially those of the under jaw which are most in contact with the saliva. The teeth are, without much if any pain, forced out of the alveolar processes by the swelling of the periosteum. Albrecht (cited by Wedl) states

that several other substances may produce similar effects, but that it is not such a common occurrence with them as it is with mercury. Such are the preparations of gold, copper, arsenic, antimony, iodine; and the employment of digitalis and opium, castor and croton oils, and cantharides, may have a like effect. A dark brown deposit, from tobacco smoke, is often found on the lingual surface of the upper molars, and to a less extent on other teeth. This deposit, which may attract tartar, occurs frequently in connection with denudation of the fangs, especially among seamen, who are known to be great smokers. In this affection a gradual encroachment on the gum takes place, causing its absorption; a process favoured, perhaps, by senile changes, as youthful smokers seem to be exempt.

In the foregoing pages I have endeavoured to show some of the injurious influences that diseased teeth have on the ear, and it now remains to consider the no less important ones that arise from the attempts made to preserve them, or to replace them when lost by artificial devices.

Cavities in the teeth are filled with a variety of substances when the ravages of caries become manifest. I shall only allude here to those known to be injurious, premising however, that future investigations may, in throwing more light on the subject, determine that other fillings are inimical to health. The most universally used filling, excepting perhaps gold, is an amalgam consisting of about two parts of tin, one of silver, and as much mercury as will cause the mass to adhere together. Actual experiments show that 12 grammes of the tin and silver, mixed as above, will require 09 grammes of mercury to form the cohesive mass used by Dentists for filling teeth. Where ordinary care is not exercised in the preparation of this material a larger quantity of mercury would remain. The quantity of this amalgam inserted in a single tooth varies from 6 to 4.0 grammes, and in the mouths of many individuals as much as 20 grammes have been inserted in the teeth. This amalgam, composed so largely of mercury, is usually much exposed to the attrition of mastication and the movements of the tongue and cheeks. The free mercury which it was found to contain by Dr. William Stratford is worn off in small particles by friction in the mouth. These particles, when submitted to dilute hydrochloric acid, yield a chloride of mercury. That toxic effects may result from wearing these fillings in the teeth is, therefore, established.

Of fillings in general, it may be said that not unfrequently necrosed matter or a diseased dental pulp are covered up by fillings, inducing great irritation from the confined products

of inflammation or decomposition. Although this condition is usually characterised by great pain, yet when the irritation assumes a chronic form, it may long exist without there being sufficient pain to attract attention. Under these circumstances caries and periostitis may supervene, and even exostosis of the fangs may occur. Amalgam fillings are frequently built out, as it were, on a carious tooth; and, after gradual disintegration from wear, their roughened surfaces may cause ulcers on the gums or tongue. It has been observed that when teeth have amalgam fillings the effect is to weaken the enamel.

A variety of metals are sometimes found in the teeth, such as gold, platinum, silver, tin, and amalgam, and different metals are even inserted in the same tooth, and sometimes in the same cavity. When a metallic or vulcanite plate is also worn in the mouth the conditions for harm are yet more favorable.

Artificial teeth are worn by an exceedingly numerous class, and it is believed that the health of a large number of these people is imperilled by the material used in the construction of plates, as well as by the methods of fitting them to the mouth. This subject, therefore, has an interest which concerns the profession at large, as well as the specialist. The healthfulness of plates worn in the mouth, especially the vulcanite, has been much discussed, but no definite conclusions in regard to the matter seems to have been reached; at all events, the Dentists in this country, to a limited number only, reject materials the use of which is thought to be injurious. The extent of the injury sustained by the race, traceable directly to the harmfulness of Dental work, cannot be easily estimated. For those who have defective teeth prefer that the fact should be unknown to others; and Dentists have not always found it to their interest to discard present methods before others less harmful are discovered. It is probable that the demand for cheap Dental work has led to the more frequent employment of these injurious substances. These plates are frequently put into the mouth over carious fangs, inflamed gums, and collections of tartar, completely encasing them, and retaining the foul secretions and decomposed particles of food usually present. The ingress of air or cooling liquids is prevented under these circumstances, and the decomposition of the retained fluids, &c., is thereby favoured. The upper plates are especially obnoxious under these circumstances. Entire plates are often found under these conditions, supporting one or two artificial teeth only.

Plates are constantly found in the mouth under the conditions described above, without pain or apparent incon-

venience to the wearer, owing to the tolerance acquired by long use. That septæmic poisoning may occur under such favouring circumstances is possible, for the diseased tissues are frequently bathed in pus. That we should find this state of things common among the uninformed is not a matter for surprise, but the neglect which the subject has received at the hands of the profession is to be regretted. It would be impracticable to bring forward here the numerous cases where, from a want of knowledge of the subject by both physician and Dentist, permanent injury to the patient has resulted from wearing unsuitable plates in the mouth. One instructive case may, however, be related with advantage, where the victim was a physician under my own observation. He had worn in his mouth for six years a gold plate supporting two upper incisor teeth; this seemed to be satisfactory in every way, when the wearer finding his breath becoming very foul, applied to a Dentist to have removed any tartar which might have accumulated on his teeth. Tartar was only suspected to exist on the lower incisors, but the Dentist—who in this instance was also a physician—thought it well to explore the whole mouth, when, to his patient's surprise, he found the gum to be perfectly detached from the lingual surface of all the upper teeth, the denudation extending down the teeth a distance of from five to seven millimètres below the gum. The origin of the foul breath was now discovered to be the ulcerous condition of the separated gum, the retained pus soon becoming decomposed. The denuded fangs were slightly coated with tartar. The patient now recalled to memory the fact that for more than a year he had experienced tinnitus aurium and slight deafness. This state of the mouth was attributable to a badly-fitting gold plate, which pressed the teeth of the upper jaw where the gum was attached, and its constant movements kept the gum in a hyperæmic condition. In this instance the patient was unconscious of any disease in his mouth. He was in the prime of life, and his health in general was unexceptionable, yet he himself was experiencing the *modus operandi* of the denudation of the teeth from disease resulting from the pressure and movements of an ill-fitting plate in his own mouth. Experiences like the above are by no means infrequent, and it is to be feared that the teeth are in too many instances treated by those whose mechanical skill is greater than their pathological acquirements.

(To be continued).

Chemical Department.

SOME EXPERIMENTS WITH ALLOYS OF PALLADIUM FOR AMALGAMS.

By THOS. FLETCHER, Esq., F.C.S.

THE following alloys were made from *chemically pure* metals, not what are known as *fine*. They were melted first, at a high temperature under a layer of charcoal, in a clay crucible, with constant stirring. They were then poured quickly into a thick and cold iron ingot mould, broken up and remelted three times to ensure uniformity as far as possible. As it is practically impossible to ensure correct or uniform results with very small quantities, the number of ounces as stated in the figures were used in each experiment. So far as they go they show the utter worthlessness of any alloy containing palladium; this is rather curious, as palladium alone with mercury makes an excellent plug. The results are so uniformly bad that I have, for the present, discontinued any experiments in this direction.

P=Palladium. S=Silver. T=Tin.

P 1, S 5.	Powdery and unmanageable.
P 1, S 5, T 1.	Ditto; both take up mercury easily.
P 1, S 5, T 2.	Similar to above.
P 1, S 5, T 3.	Very dirty to mix; makes a leaky plug.
P 1, S 5, T 6.	Similar to last.
P 1, S 3, T 5.	Very dirty; does not combine properly with mercury.
P 1, S 6, T 5, Gold 1.	Similar to last.
P 1, T 4.	Very dirty; does not set at all.

Hospital Reports and Case-Book.

MONTHLY REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM MARCH 1ST TO MARCH 31st, 1880.

Extractions	{ Children under 14	585	
	{ Adults	870	
	{ Under Nitrous Oxide	359	184
Gold Stoppings		113	
White Foil ditto		5	
Plastic ditto		368	
Irregularities of the Teeth treated mechanically		54	
Miscellaneous Cases		285	
Advice Cases		95	
Total		2738	

JOHN BERNARD MAGOR,
Dental House Surgeon.

MONTHLY REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM MARCH 1ST TO MARCH 31st, 1880.

Number of Patients attended	1082	
Extractions	{ Under 14	334
	{ Adults	466
	{ Under Nitrous Oxide	43
Gold Stoppings		51
Sheets of Gold used, independent of Pellets	64	
Other Stoppings		398
Advice and Scaling		67
Irregularities of Teeth		21
Miscellaneous		35
Total operations		1415

WILLOUGHBY G. WEISS,
House Surgeon.

British Journal of Dental Science.

LONDON, APRIL 15, 1880.

It is with great regret that we observe from the election returns that Sir John Lubbock has lost his seat in Parliament. Into the question of Liberals or Conservatives it is not our place here to enter, all we have to deal with is as to the part Sir John Lubbock played in the passing of the Dentists Act. It must not be forgotten that whatever defects different individuals may find in that Act, there is one fact which can never be got over or undone, and that is that no one IN FUTURE can call himself A DENTIST unless he has gone through a strict educational course, an examination, and obtained as evidence thereof a diploma. Whatever difference of opinions may exist among the leaders of the profession on other minor points of the Bill, that one result must stand untouched; and this result could never have been obtained but by the strenuous vigilant exertions of Sir John Lubbock. Therefore, we do think that Dentists of whatever shade of opinion, should use their utmost endeavours, either by their own personal votes or by influence with their friends, to win for him, on the first favourable occasion, a seat in that Palace of Westminster, wherein he has so long sat as the "people's friend," the originator of the Bank Holidays, which although contrary to the tastes of mere money-makers, are so welcome to the poor over-tasked thousands of this great city.

Literary Notices and Selections.

SURGICAL SOCIETY OF IRELAND.

THE following cases of interest to Dentists were read at two recent meetings of this Society :

CONTRACTION OF THE MOUTH.—Dr. Mapother read the notes of a case of what the Americans call *trismus dentium*, to which name he would wish to add the words *sapientie inferiorum*; for it was those teeth alone which caused it, as the upper wisdom-teeth could make room towards the tuber or antrum, whereas the coronoid process was less yielding. A married lady, aged twenty-four, had suffered from progressive closure of the jaws for the last eighteen months. She had had toothache of the second and third left lower molars, but no abscess or other inflammatory process. The central incisors could only be separated for two lines; and any attempt to force the mouth open caused much pain; and the masseter muscles were in a state of tonic spasm. Under the influence of ether, the mouth could be freely opened; and, with the assistance of Mr. Baker, the left inferior wisdom-tooth, which was impacted in the root of the coronoid process, and the second molar, which it had displaced and diseased, were extracted. For a few days, there was some soreness in moving the jaws, which soon disappeared, leaving the patient free to indulge in a hearty yawn and chew solid food with ease. Dr. Mapother then reviewed the numerous causes said to produce trismus, and concluded by observing that most serious troubles might not unfrequently be avoided by the diagnostic power which a course of lectures on Dental pathology would confer on members of the medical profession.

STOMATOPLASTY.—Dr. Mapother described a case of contracted mouth and nostrils from cicatrices after lupus, on which he had performed several operations for the purpose of enlarging the oral aperture, which, when he first saw the case, was only a circle six lines in diameter, undilatable, with hard cicatricial tissue at the commissures, but healthy lip-tissue at the upper and lower thirds. The operation was as follows. In each cheek, six lines from the edge of the mouth, a perforation was made with a platinum rod two lines in diameter, heated by the benzole apparatus. The sloughs having separated, and the holes healed with a smooth flexible tissue (which they did in a month), the intervening tissue between them and the mouth was removed. The result was satisfactory on the left side; but on the right side Dieffenbach's stomatoplasty was subsequently performed, and a mouth-stretcher employed for some time, with the result of leaving the oral aperture with a transverse diameter of sixteen lines, and, when fully opened, fourteen lines from above downwards.

Mr. R. McDONNELL said that an almost exactly similar

case had recently come under his care, in which nothing larger than a crow-quill could be introduced into the mouth. Dilatation of the mouth had been tried without success; and, as there was no mucous membrane existing on the inside of the lips, he contented himself with simply slitting the mouth across very widely, and inserting silver sutures. These, however, were useless, and after a few days it began to heal. The resident pupil (Mr. Isdell) then made silver-wire hooks, and, fixing them into the commissure, fastened them behind with an India-rubber strap, and thus arrested the closure.

Messrs. Baker, Stack, Stokes, Craly, and Sherlock also took part in the discussion which ensued.

LARGE RANULA, WITH A TUMOUR OF THE FLOOR OF THE MOUTH.—Mr. Wheeler read the notes of a case which had come under his care in the City of Dublin Hospital. The patient stated that she had noticed the lump (the ranula) for about a year previous to her admission, but was unaware of anything else wrong with her mouth. On examination a large ranula was discovered, and also a tumour, about the size of a Seville orange, beneath the symphysis menti, which pushed up the whole tongue. He (Mr. Wheeler) excised a portion of the cyst of the ranula, and removed a large piece of bone from it, which, however, did not obtain a permanent cure. Some weeks afterwards (the ranula having refilled), the girl was in excellent health—the swelling below the chin was not quite as large as it had been when she was admitted—when she was, one evening, suddenly seized with a violent attack of dyspnoea. When Mr. Wheeler saw her, she was sitting up in bed gasping, her eyes starting from her head, and a cold perspiration on her face and body. The tongue was immensely swollen, and pushed upwards and backwards by the enlarged tumours; her pulse was weak and rapid, and suffocation seemed imminent. Incisions were made at each side of the tongue, and the ranula and tumour were opened and their contents evacuated, the epiglottis scored, and warm fomentations and poultices applied to the throat, and the patient made to inhale steam; she was very much relieved by these measures, but next day it was deemed necessary to evacuate, through the floor of the mouth, the remaining contents of the tumour, which proved to be of a cheesy consistence. The case terminated in a complete cure.

Mr. Tufnell and Dr. H. Kennedy took part in the discussion which followed.—*British Medical Journal*.

DENTAL REFORM.

By OUR ENGLISH CORRESPONDENT

To the Missouri Dental Journal.

(Continued from page 236.)

THE time for registration expired January 1, 1879, and we had a right to hope that this would have ended the pursuit of Dental politics. The energies of the profession have already been absorbed quite too long in purely legal affairs, and it was time it began to turn to scientific matters. The call for a general meeting of the profession in London, early in this year, for the purpose of forming the British Dental Association, seemed to carry with it the idea that, registration being accomplished, our ambition should now turn to something higher. The high-sounding name of the new society implied to any one not of the make-believe class that it could mean nothing else, and was to inaugurate a new and better era in Dentistry. The meeting was largely attended by men from all parts, the president read a long speech, the secretary made a report, speakers followed in glorification of each other, and finally, a series of resolutions were passed, which simply meant that the Reform Committee was to be continued under a new name; and that, having got registration, this society was to keep off the register all the names possible. The result of this meeting was, and yet it was not, a surprise. The leopard cannot change his skin, and the getters-up of legal qualifications and the despisers of finger craft cannot be made to see that the way to elevate Dentistry is to elevate the individual Dentist, and the way to get an educated profession is to educate its members—in short, that the way to do a thing is to do it, and not something else. It was not a surprise, therefore, to find the formation of the British Dental Association did not contemplate the advancement of Dental Science—at any rate for the present. That there could be no mistake in the matter a gentleman present asked if the meeting was merely to form a Dentists' trades-union, to which the president and secretary replied that if he had noticed something or other in the president's address he would have his answer. This was an evasion, and the whole proceedings gave distinct indication that the society is to have no scientific character. Fancy the British Medical Association, or the American Dental Association, having no object but medical or Dental politics, and hunting up by means of a spy system offenders against the penal clauses of medical and Dental

Acts of the Legislature ! Yet it was a surprise to find how far certain men can go without seeing the inevitable consequences of their doings. So long as men act justly and independently they interfere with no other man's rights, and the end of progress is to lift up human nature to that point where each man may have all his rights without infringing upon the interests of others. But when a body of monopolists begin to acquire legal privileges they must interfere with the natural and acquired rights of others. The moment the Dentists Act was projected the licensed medical men and pharmacutists were in arms. We have seen that the medical men were strong enough to entirely exempt themselves from its provisions, and are not even required to go to the expense to which the Dentist is put in the registration fee, although they practise Dentistry and nothing else.

The pharmacutists were not able to go quite so far ; yet they were powerful enough to protect their "vested rights"—and hence we have 2049 men on the register never before ranked as Dentists ; and the Act is so worded that few of these names can be removed. With that obliviousness to the consequences of their doings, characteristic of the reformers, such an influx of "chemist-dentists"—as they are now called—was not anticipated. And as many of them as possible must be got off the register. This is the work to be performed by an organisation that styles itself the British Dental Association ! Parliament appeared to know the kind of people it was dealing with and put no power in their hands. It all rests with the Medical Council, to whom notifications of illegal registration are to be sent, which restricts the business of the British Dental Association to the attaining of such information as will induce the council to expunge certain names from the register. Even the editor of the 'British Journal of Dental Science' could not tolerate such an organisation, and has asked that his name might be removed from the list of members ; for it is one, says he, "which, in my humble opinion, is opposed in every sense to the principles upon which *alone* Sir John Lubbock"—the member of Parliament who took charge of the Dentists Act—"himself has declared the bill could have become law—that is, the recognition of all existing rights." Mr. Fox thinks he will be attacked and misrepresented. He need not fear. It is a step towards winning back the confidence of the men who care more for improvement than penal restrictions.

Thus the matter stands at the present time. What the future of Dentistry is to be in England remains to be seen. That so robust a profession can be permanently crippled by

the follies of those who have attempted to control it is not possible. It will grow and thrive in spite of them. But there can be no doubt that a pernicious step has been taken. We are now strong enough to make our strength felt in a legitimate manner if our energies were properly directed, and should stand before the world and command the respect that is our due. It is thus most humiliating to find that we are thrust into an inferior position, because a set of little men are unable to comprehend the situation.

There can be no doubt that a large majority of the Dentists welcome reform in so far as it offers a prospect of a less number of Dentists in the future. Beyond this there is little sympathy with reform and the reformers. Indeed, my remarks are feeble to what I hear commonly expressed on that point. That it will have the effect of lessening the number of registered Dentists for a considerable time is undoubtedly true. But is that a good? To the public, undoubtedly not. It is always best served by healthy competition, and this is not only eliminated, but, so far as reform has influence, is destroyed. Nor will it prove a good to the better men in the profession. The principle is, and the effect will be, the same as in all trades-unions, the ignorant, idle, and incompetent—and especially the self-assertive—will be protected at the expense of the intelligent and progressive. The latter *never need protection*. They can hold their own anywhere, and an influx of inferior men helps rather than injures them. This was curiously admitted by the advocates of reform. "It is all very well for *you*," was their argument, "*your* position is such that you do not feel the influx of these common fellows, but look at us." Of course the answer rose instantly to the lips. "This only shows that to excel is all the protection needed;" but it had no influence, for an obvious reason.

(*To be continued.*)

GLANDULAR CARCINOMA OF THE NASAL MUCOUS MEMBRANE: EXCISION OF THE UPPER JAW: RECOVERY.

(Under the care of Dr. MACFIE CAMPBELL, Northern Hospital, Liverpool.)

DAVID J—, æt. 54, a sailor, was admitted into the hospital on October 8th, 1878. Three years before, he fell a considerable distance on his face, severely injuring his right eye,

of which vision was entirely lost. Since then, there had been a gradually increasing swelling of the right side of the nose, with a constant, sometimes profuse, sero-sanguinous fetid discharge from the right nostril. The swelling of the nose had been increasing rapidly lately. On admission, there was much enlargement of the right side of the nose and cheek. Over the malar bone suppuration had commenced. The skin was thin and gave way, discharging thick pus. There was no affection of the glands, but he was in a low state of health and in constant pain. The right nostril was completely blocked by the growth, and the septum was pushed to the left. In the mouth, the tumour slightly encroached on the middle line, and extended back to the soft palate.

Operation, October 17.—He was put under the influence of ether, given by Ormsby's inhaler; but, when the operation was commenced, chloroform was used. Fergusson's incision was followed from the centre of the lips to the outer margin of the orbit, and the flap turned downwards and outwards. The superior maxillary bone was removed with the orbital plate, the palate-bone, and part of the malar bone. The tumour had no adhesions to the septum nasi, nor to the soft palate. The ulcerated portion of skin under the orbit was excised, and the thermo-cantery used where there was oozing or any suspicious tissue was seen. The whole line of incision was sutured. The operation lasted one hour.

His history subsequent to operation was entirely favorable, the only trouble being a small sinus under the orbit, which had to be freely incised. His power of swallowing liquids was always good; but even two months afterwards he had difficulty with solids, which were retained in the nasal vault. His speech also was very indistinct.

Six months after the operation there was no appearance of any return of the disease; but there was considerable retraction of the skin of the cheek. His speech and swallowing powers had been perfectly restored by a false palate and upper jaw, kindly prepared for him by Mr. Phillips of Rodney Street.

The tumour was examined by Mr. Rushton Parker, and was found to be a form of growth of great interest and rarity. It is described by Billroth* as glandular carcinoma of the nasal mucous membrane, and is, fortunately for the patient, said by him not to be likely to recur.

Mr. Phillips has written the following note on the

* "Mucous Glands, with Cylinder Epithelium" (Billroth's 'Surgical Pathology,' Sydenham Society's Translation, vol. ii, class 9).

mechanical difficulties which he had to overcome, and a description of the way in which the plates were made and fixed.

Having examined the mouth and taken impressions of the jaws with plaster of Paris, I found that in the left upper jaw (the right having been removed from the median line) there were the roots of the central and lateral incisors and canine teeth, the second bicuspid and first molar being absent, thus leaving only the first bicuspid and last two molar teeth. In the palate there existed an opening of a pear-shape, the broad extremity being towards the throat, the anterior extremity being situated just behind and rather to the right side of the median line, at the junction of the alveolar and palatine processes of the superior maxillary bone; the greatest width of the opening was seven eighths of an inch, and its length one and a half inches. In the lower jaw, the patient had all his own teeth, with the exception of the second molar and wisdom on the left and the first molar on the right side. There being no means of support for an upper frame alone, it was necessary to construct a lower also, by doing which I was enabled to connect the upper to the lower by means of springs, and thus ensure its being kept in position. The lower frame was constructed of vulcanised india rubber, carrying one artificial tooth to replace the lost second molar on the left side, and being strengthened by means of a strong gold wire embedded in it, and having also broad metal bands passing round the two remaining molars on the right side, and round the first molar on the left. The last came from behind, passing as far forwards as the second bicuspid, and having soldered on its extremity a swivel for attachment of the spring on that side, the swivel on the other side being fixed in the piece of the india rubber that occupied the space of the absent first molar. The upper frame was made chiefly of vulcanised rubber, strengthened or rather replaced over part of the alveolus, where thinness was required, by a piece of plate (palladium). There were also broad metal bands round the two remaining molars, to give steadiness. The swivels for attachment of the springs were fixed in the rubber, on the right side a little above and towards the posterior border of the second (artificial) bicuspid, and on the left in the portion of rubber which occupied the space left by the loss of the second bicuspid and first molar. This frame carried the full complement of teeth necessary to antagonise all the lower ones; it was necessarily of somewhat bulky appearance when out of the mouth, owing to the loss it had to replace.

The effect was satisfactory, the patient being able to speak distinctly as soon as the frames were inserted; and when I saw him a short time afterwards, he told me he could masticate very well and take fluids with comfort, though a little fluid would find its way into the nasal cavity by passing between the cheek and buccal surface of the upper frame, the tissues of the cheek being continuous with the external border of the opening in the palate. I saw the patient again nearly three months afterwards, to replace the springs which had been bent, and he was then apparently quite comfortable.—*Brit. Med. Journ.*

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

ORDINARY MONTHLY MEETING, APRIL 5TH, 1880.

ALFRED J. WOODHOUSE, Esq., President, in the Chair.

THE following gentlemen were balloted for and elected Members of the Society.—Messrs. Hugh William Dewes, L.D.S. Eng., 10, Cavendish Place, Cavendish Square, London, and Lawrence Read, L.D.S. Eng., 18, Hanover Street, Hanover Square, Resident Members; and Messrs. George Joseph Hougo, 15, Alley Street, St. Peter Port, Guernsey, and Maurice Hougo, 36, Belmont Road, St. Heliers, Jersey, Non-Resident Members.

MR. HENRY SEWILL read the following communication on the Relations between Diseases of the Teeth and Epilepsy. In the course of the discussion on Dr. Brunton's paper on Nervous Affections due to Diseases of the Teeth, read at the previous meeting of the Society, Mr. Sewill had stated that he had not, either during twelve years of hospital practice or in private practice, met with a single case of epilepsy due to diseased teeth, and he believed such cases to be extremely rare. Other members having said that they had met with several such cases, and that they believed that dental irritation was not a very uncommon cause of epilepsy, Mr. Sewill now wished to make some statements in support of the opinion which he had formed.

In the first place it would be clear that if diseased teeth acted as excitants of epilepsy on any but rare occasions, that disease would certainly be much more common than it now is. Thousands of children, especially among the poor, were almost constantly suffering from inflammation of the dental nerves, and if only a small proportion of these suffered from epilepsy as a consequence of the dental irritation, epilepsy would be as common a disease as measles.

On conversing after the previous meeting with his medical friends he had found a remarkable unanimity of opinion with regard to this subject. Some of these gentlemen, physicians specially well acquainted with diseases of the nervous system, had been kind enough to give their views briefly in writing, and these he would proceed to read.

Dr. W. R. Gowers, who had just delivered the Gulstonian Lectures on Epilepsy before the Royal College of Physicians, in which he had specially and exhaustively discussed the etiology of this disease, wrote as follows:

"I have never yet met with a case of epilepsy in which there was any reason to attribute the fits to the irritation of decayed teeth. I think that the facts which have come under my notice justify the assertion that, if this cause is operative, its ratio to other causes is less than one per thousand."

Dr. Sieveking, who was for some years physician to the Hospital for Epileptics, and was well-known as one of the highest practical authorities on epilepsy, wrote, "In reply to your question as to the connection between epilepsy and diseased teeth, I should be disposed to affirm that, apart from the convulsions due to dentition in early life, the teeth very rarely afford an exciting cause for epilepsy. I cannot at the present moment call to mind a single case in my own experience in which such a connection was traced."

Dr. Hughlings Jackson, whose name needed no comment, said, "I do not think that anything wrong with the teeth is ever a cause of epilepsy, nor have I ever met with evidence to show that it is an exciting cause."

Dr. Ferrier, whose name and works were well-known, wrote, "I have not forgotten your query as to the connection, if any, between dental irritation and epilepsy. I cannot, however, among the numerous cases of epilepsy which I have seen, call to mind one in which the circumstances were such as to suggest any such connection. Cases are on record in which peripheral irritation seems to have been at least the exciting cause of epilepsy, which has ceased with the removal of the irritation. I question, however, whether this

would be sufficient to induce epilepsy in any case without the previous existence of such an amount of irritability of nervous tissue as might manifest itself at any time, as an attack of so-called idiopathic epilepsy. In cases of epilepsy connected with peripheral irritation, the fit is usually preceded by an aura starting from the seat of irritation. If dental irritation was at the bottom of an attack of epilepsy, I think we should find some such evidence as a dental aura. I have never met with such a case. Such a thing is, however, highly possible, and I am only giving my own experience when I say it is unknown to me.

Dr. Buzzard, one of the physicians to the Hospital for Epileptics, and a high authority on the subject, said, "I have in no case been able to satisfy myself that epilepsy was caused by diseases of the teeth. In one case there appeared to be a rather close connection between the process of second dentition and the occurrence of epilepsy.

The case was that of a delicate-looking boy, eleven years of age, who was brought to the National Hospital for the Paralysed and Epileptic, in February 1873, on account of epileptic fits. He had always been weakly, was late in cutting his teeth, and did not walk till he was a year and ten months old. In May, 1871, when nine years old, he fell from his chair into the fender; he was then cutting a lateral incisor. A couple of months later he was found lying insensible in the garden, his limbs slightly struggling. Two months afterwards he had a more severe fit which lasted altogether an hour and a half. He struggled much, and his face became blue. After this he took bromide for six months. During this time he had three or four fits, the first of which was bad, but the later ones slighter. At ten years of age he cut the two upper lateral incisors; during this process he suffered twice a week or so from very severe neuralgia of the two upper divisions of the fifth nerve. This lasted six weeks, and then ceased till the middle of December last (1872), since when he has had more or less neuralgia every day, sometimes lasting for three hours together. Both sides of the face are affected, and the pain appears to start from the upper temporary canines, which are still unshed. His father was a strong healthy man, but his mother suffered much from tic between sixteen and forty-six years of age. Her father and three of her brothers have also had tic.

The boy had a fit whilst being examined. It appeared that for a week previously he had had about four a day. Dr. Buzzard advised removal of the right upper canine, which was tender on pressure, and ordered Ol. Morrhuæ with quinine and iron.

A fortnight later the boy looked better and had suffered less pain. He had had two severe fits besides three or four attacks daily of co-ordinated convulsions in which he tried to bite his fingers, and complained of "something turning round at the top of his head." The same treatment was continued, the boy continued to improve in appearance, and the neuralgia almost disappeared, but he still had a fit daily, usually in the evening. In May he had only three bad fits, but many slighter ones; in June the fits were still frequent, but less severe; in July the fits ceased entirely, but he had an attack of facial neuralgia once a week.

In January, 1874, he had a slight epileptic fit; he had just cut another molar. "Has now nineteen teeth, including four permanent molars, and eight permanent incisors." In March he had numerous fits till another tooth (bicuspid) came through, after which they became less frequent. In May, 1875, he cut three teeth, but his health having now considerably improved, the fits were very slight. July, 1875. "It is two years since he had a bad fit, and nine weeks since he had a slight one; in this he scarcely lost himself. He never has neuralgia now."

In March, 1880, nearly five years later, he was again brought to the hospital. He had remained quite well and had no fits till fifteen months ago; since then has had a few, but not severe ones. About four months since he complained of pain at the back of the jaw, and it was found that he was cutting his lower wisdom teeth.

With reference to this case, Dr. Buzzard remarked, "It is of course constantly happening that the occurrence of epileptic fits coincides in point of time with the process of dentition, but except in this case, I do not think that I ever met with any evidence that the connection between the two circumstances was more than that of association. In the case just related, typical neuralgia of a very severe kind occurred at the period of the second dentition, and was unmistakably influenced by the removal of a tooth. At the same time fits occurred, these and the neuralgia often appearing to replace each other, which suggested the idea that they might be dependent on a common source of irritation. The fits were diminished in frequency after the removal of a tooth, and entirely ceased when the second dentition was accomplished. After that, the lad remained free from them and from the neuralgia for three years and a half, from fourteen to seventeen and a half years of age. A recurrence of fits then took place, commencing not long before the cutting of wisdom teeth. It appears to me that in this case there is a considerable probability that the process of dentition in a

patient with strong neurotic inheritance determined the occurrence of epileptic and hystero-epileptic seizures."

Mr. Sewill added that he was glad to have been enabled to place on record in the 'Transactions' a deliberate judgment with regard to the influence of the teeth on the causation of epilepsy as weighty as it would be possible to produce. If an opinion were asked in any case as to whether epileptic convulsions might be due to diseased teeth, he thought the answer should be that it was possible, though extremely improbable, that the teeth might be the cause of the disease, and that it would be well, if possible, to remove all dental irritation, whilst holding out no more than a faint hope that in so doing the exciting cause of the epilepsy might also be removed. In endeavouring to establish a diagnosis it would also be well to bear in mind the fact which Dr. Ferrier had pointed out, that fits due to the teeth would probably be preceded by an aura felt in their neighbourhood.

Dr. WALKER said he felt very grateful to Mr. Sewill for having called the attention of these eminent members of the medical profession to the fact that dental irritation might produce epilepsy. From cases which he had met with in practice, he had been firmly convinced that dental irritation was a not uncommon cause of epilepsy, and he could only explain the opinions to the contrary, which Mr. Sewill had read, by supposing that the attention of these physicians had never been specially directed to the subject. He was glad that this had now been done, and he thought it probable that if the same question was to be again put to them six or seven years hence, their verdict would be very different from that which had just been quoted.

Mr. COLEMAN said he had no doubt that dental irritation was an occasional, and not very uncommon, cause of epilepsy. Besides his own published cases, to which he had referred at the previous meeting, he would call attention to to a very interesting case, published by the late Dr. Baly, in the 'Abernethian Transactions,' in which epilepsy was evidently set up by a diseased tooth. He did not clearly understand what Dr. Ferrier meant by the term "Dental aura."

Mr. OAKLEY COLES said that at the last meeting he had mentioned the case of an epileptic girl whose fits ceased after the extraction of two carious teeth. This patient was sent to him by Dr. Ferrier with the suggestion that possibly attention to the state of the mouth might prevent the fits. Yet Dr. Ferrier stated in his letter to Mr. Sewill that he had never met with a case in which epilepsy had been directly caused by dental irritation. If the bad teeth were not the cause of the epilepsy in this case, he (Mr. Coles)

could only say that he was under a misconception as to what was really meant by the term "Direct cause."

Mr. SEWILL answered that, of the authorities he had brought forward, Dr. Ferrier was the one who most readily admitted the possibility of epilepsy being occasionally due to the irritation of diseased teeth, though he had never happened to meet with a case in which the connection could be clearly established. The notes which he had read were written in a friendly and conversational style; the writers had stated their opinions as briefly as possible, without at all entering upon the grounds upon which they had been formed. He thought, however, that it might be taken for granted that men of their acknowledged position would not deliberately give an opinion on a subject to which they had paid no attention, and that they would be quite able to substantiate their statements with good and sufficient reasons had they been called upon to do so. The term "Dental aura" he understood to mean an aura originating in the dental nerve.

Mr. OAKLEY COLES presented to the Society's museum a set of models illustrating every variety of deformity of the upper jaw, including those due to the effects of syphilis.

The PRESIDENT then called upon Dr. Walker to open the adjourned discussion on Mr. Oakley Coles' paper on "Deformities of the Upper Jaw."

Dr. WALKER said the best thanks of the Society were due to Mr. Oakley Coles for the production of his original paper read on the evening of February 2nd. The paper was interesting from three points of view. Mr. Coles had endeavoured to define clearly a fully and well-developed maxilla, and also the various types between the well-developed and the ill-proportioned, giving to each subdivision a distinctive name. Secondly, he had endeavoured to show how the ill-proportioned maxilla had received the impulse of development. Thirdly, his deductions all pointed to the care parents and surgeons should take to prevent in youth a jaw with a tendency to prognathism.

In his review of the paper he should leave others to discuss the triangles and the value of the measurements, and would begin his criticisms at page 128. Mr. Coles there said: "My first assertion is that the deformity known as intermaxillary prognathism is the result of a force operating on the intermaxillary bone, such force originating in the body of the sphenoid bone, and being transmitted by the intervening nasal septum. I may as well say that when speaking of *force* I mean a direction of growth, in a given line, of such energy as to overcome the resistance offered to it by sur-

rounding structures." What "force" were they to understand Mr. Coles to refer to in this passage? Did he mean that there was a growth of brain substance behind the sphenoid bone which forced that bone bodily forward? Or did he mean hypertrophy of the sphenoid bone itself, producing displacement of the intermaxillary and of the other parts in front of it?

Then Mr. Coles went on to say (p. 129):—"The foregoing assertion is based upon the interpretation of the following observed facts:—First, the true case of intermaxillary prognathism will have a long thin nose; secondly, the long thin nose is not observable during the first dentition, nor is the prognathism, excepting to a very slight degree. Hence, we may conclude that the long thin nose and prognathous jaw are capable of intensification by growth and development during early life." How many cases could Mr. Coles refer to in which he had traced this process of growth? To continue his quotation:—"Thirdly, it has been shown that the measurement from the intercuspid line to the incisive angle is greater in the prognathous than in the normal jaw; hence it follows that a change from the normal arch occurs at a point anterior to the second bicuspid, whilst the second bicuspid are known to correspond in position with the second molars of the milk dentition. Thus, it is shown that the prognathism is not of the whole jaw, carried forward on a horizontal plane, but is really intermaxillary or alveolo-subnasal in its character. Fourthly, it is a simple logical sequence of the process that produces intermaxillary prognathism carried a step further during embryonic life." This seemed to him a little contradictory after what they had just been told about prognathism not being observable during the first dentition—"during embryonic life—that produces double harelip and fissured alveolus. Arguing back from these cases of double harelip to premaxillary prognathism, we can come to no other conclusion than that the duration and extent of the force operating upon the premaxillary bone determines the nature and extent of the deformity that will be produced." Here was another reference to the mysterious "force" which he had not been able to identify. Then at p. 131:—"From collateral evidence we know that many cases of prognathism are associated with such central lesions as will manifest themselves in the form of idiotcy or imbecility; and, further, that the general configuration of the face is ape-like from its diminishing facial angle and retreating chin, and we also know that in the apes the intermaxillary suture is not ossified till late in life." He wished to ask Mr. Coles what "central lesions" he

referred to in this paragraph? After this Mr. Coles proceeded:—"I do not, of course, wish it to be understood that all who have intermaxillary prognathism must, of necessity, be either idiots or imbeciles, but I desire very distinctly to assert that such a deformity occurring among the highly civilised is a distinctive mark of deterioration of stock, whilst it is differentiated from the normal prognathism of savage races by the diminished interbicuspid measurement of the highly-bred skull." Evidently Mr. Coles meant to say that whilst all who had prognathous jaws were not necessarily idiots, many idiots were prognathous, and he thought he also wished it to be inferred that by his careful observation of the large number of children with whom he had been brought in contact he could, at all events now and then, perceive by the shape of the jaw that there was a suspicion of idiocy lying perdu in perhaps some of his best patients. What treatment would Mr. Coles advise under such circumstances?

His own views on this subject were somewhat as follows:—If the members would examine the skulls which he had arranged for inspection, and would bear in mind the habits of the races to which they belonged, it would be seen that those nations which led an outdoor life had jaws which were fully and very largely developed; but in proportion as people were confined in habitations, the less was the jaw developed, until they came at last to an ordinary English model. And he believed it was the sedentary occupations of the present generation, combined with filtered water, whitened bread, meat diet, and our fashionable dressing of our children, preventing them from throwing their limbs about and gathering strength and vigour by muscular action, which had brought the jaws of our children to such a low state of development. And that if parents could only be induced to clothe their children, up to the age of fifteen or sixteen, in such garb that they could play about freely, and would give them more fresh air and less confinement, we should, in great measure, restore to future generations the jaws of their Saxon ancestors. If Mr. Coles thought that he could, by early treatment, prevent prognathism from being as fully developed as it would otherwise have been, he should be glad to hear his suggestions.

The SECRETARY then read a communication from Mr. BALKWILL, of Plymouth, who said that, having lately been engaged in observing whether any connection could be traced between the V-shaped arch and mental deficiency, he had been led to consider what was the best method of making diagrams of the jaw for reference and comparison. In the

first place, he believed that the varieties of form were too great to be properly represented by so simple a diagram as that given by Mr. Coles; he thought that a classification built on such a basis must lead to many erroneous generalisations. There was an objection to the use of the alveolar border as a fixed level from which to measure the depth of the palate, from the fact that after thirty an exceedingly variable amount of absorption took place, even where the teeth were not removed, and to a much greater extent where they had been lost; the true level seemed to be the plane of the occlusion of the natural teeth. His method was as follows:

Take a little softened Godiva modelling composition and fill up the palatal part of the model full to the tops of the teeth, and press it down with a flat surface until this rests upon the points of the teeth; when cold remove, and make a vertical longitudinal section; this can be placed upon paper and traced. It will give a longitudinal section of the cavity of the palate with the level of the cusps of the upper teeth, from which the depth at any time can be accurately measured. Another section across the first molars, or any desired part, is then taken with Godiva and traced in the same manner.

The general character of the arch is taken by inserting the model itself upon paper and marking round the outer cusps and cutting edges of the teeth, as the general type of the arch of the teeth is best indicated in the cutting edges of the front teeth, and the points of the external cusps of the masticating teeth.

Mr. HENRY SEWILL said that he also should be glad to hear some further explanation from Mr. Coles respecting the points to which Dr. Walker had called attention. But before criticising that part of the paper he felt bound to enter a strong protest against the barbarous words which Mr. Coles had coined and had used to designate his different classes. He did not pretend to be a great classical scholar, and therefore the remarks he was about to make must be received in a spirit of humble inquiry rather than of criticism. Mr. Coles's first subdivisions were into macroid and microid; these words were derived from the Greek *macros* (big) and *micros* (small), with the addition of the word *idos*, meaning "like." There were, no doubt, already in use a number of words ending in *oid*, which were compounded of the adjective *idos*, with a substantive, and meaning something like the substantive; thus one might speak of a tumour as being brain-like (*encephaloid*), or of a wedge-like bone (*sphenoid*), but it was ridiculous to speak

of a "big-like" jaw or a "small-like" jaw, the jaws must be either big or little. As to the terms dolichoid and brachoid, Mr. Coles had referred to cranial morphology as his authority, but the same objection applied here, and, as a matter of fact, people did not speak of the "similitude of a long skull," or of a short skull, though they did speak of dolicho-cephalic races and bracho-cephalic races. Intermaxillary prognathism was a hybrid phrase, the meaning of which it would puzzle anyone to find out if they had only the derivation of the words to guide them; literally translated it would be "between-the-jaw before-the-jaw-ism." The test of the value of a scientific term was, that it should express the same meaning to scientific men of every nationality. The term prognathous had already a recognised meaning, but it had not the meaning which Mr. Coles wished to attach to it. In certain of the lower races of mankind the jaws, as a whole, were prominent, due in part to the massive form and really increased size of the jaws, but chiefly to the smallness of the forehead in these races in consequence of the small development of the brain. This was what was meant by prognathism, but he doubted whether anybody could tell what "intermaxillary prognathism" might mean.

Intermaxillary upognathism was another extraordinary compound of Latin and Greek; in the first place, "upo" was always written with an aspirate, and therefore he should prefer to call it hypo; and in the second, it always meant under in the sense of *beneath*, and never in the sense of *deficient* or *wanting*. Assuming, therefore, that intermaxillary upognathism was translatable, it could not mean what Mr. Coles wanted it to mean. The only words out of the number which Mr. Coles had invented which could be said to possess a clear meaning were lambdoid and alphoid, and he could not see that the term lambdoid maxilla was any improvement on the old name V-shaped jaw.

He was not going to tackle Mr. Coles's wonderful triangle, nor to examine his base line; he had not time to follow him in his geometrical survey of the human palate, though he hoped that this would be done by some one with a better knowledge of mathematics than himself. The technical character of the paper made it a difficult one to grasp, and he had not quite mastered all that Mr. Coles had stated towards the end of his paper. As Dr. Walker had already read to the Society a good deal of what he had intended to refer to; he would only call attention specially to one passage. This was the following, "My first assertion is this, that the deformity known as intermaxillary prognathism is the result

of a force operating on the intermaxillary bone, such force originating in the body of the sphenoid, and being transmitted by the intervening nasal septum. I may at once say that when speaking of force I mean a direction of growth in a given line of such energy as to overcome the resistance offered to it by surrounding structures." It was well known that the ancients ascribed wonderful virtues to the pituitary body, which was situated on the body of the sphenoid bone, but he had never heard before that any force resided in the body of the sphenoid bone itself. If they would accept, on the authority of Mr. Coles, the statement that the force in the body of the sphenoid bone was capable of controlling and governing the growth of the premaxillary bone, there would be no difficulty in receiving and agreeing with the other conclusions which Mr. Coles had so ably set forth. This one scientific fact was sufficient by itself to establish the reputation of Mr. Coles, and to shed a reflected halo on all the members of the Odontological Society.

Dr. CHARLES COBBOLD (of Colney Hatch) said there were very few points of connection between the study of Dental science and of metal science, but the peculiarities in the shape and formation of the palate and of the Dental arch in imbeciles was one point in which they did come in contact. As medical officer of an asylum, he took great interest in this subject. About four years ago he had assisted Dr. Clay Shawe in making a number of measurements of the palates of imbeciles at the Leavesden Asylum, and Mr. Coles had referred to the paper which Dr. Shawe had published. He remarked that there was a great similarity between the measurements which he (Mr. Coles) had made and those made by Dr. Shawe as regarded the average size of palates; their width and length, but there was a considerable discrepancy as regarded the average height. Mr. Coles had tried to explain this difference by supposing that Dr. Shawe had measured the depth of the palate from the grinding surface of the teeth, whereas Mr. Coles' own measurements were made from the junction of the neck of the tooth with the gum. But he could state positively that Dr. Clay Shawe's measurements were not made from the level of the grinding surface of the teeth, but from the junction of the neck of the tooth with the gum. The difference must be accounted for partly by the fact that Dr. Shawe's measurements were all made on living subjects, and Mr. Coles' on dry skulls, and partly that Dr. Shawe's measurements were nearly all made upon imbeciles and idiots, whilst Mr. Coles' were chiefly from healthy adults. Dr. Shawe said in his paper that he believed the worst idiot might have a very well-

formed palate, and he quoted as an example the case of a woman, a microcephalic idiot, who, as he says, has a very well-formed palate. But this woman had been edentulous for years, and her alveolar processes were consequently atrophied; whilst her sister, who was also a microcephalic idiot of about the same size and type, had teeth and had a very high palate. Dr. Shawe's statement might be true, but that case did not prove it.

Since reading Mr. Coles' paper he had himself made a number of measurements, some of normal palates and some of idiots, on Mr. Coles' method. He certainly thought the triangles very useful. They gave the length and the width at one or two places, and the relative position of the interbicuspoid line, but it did not take into account the height or the shape of the palate. One of the conclusions which Mr. Coles had come to was, that the best type of European jaw gives an equilateral triangle when treated by his method. Dr. Cobbold could not agree with him in that; he had found that in healthy sane people the base line was considerably longer than the sides of the triangle; only in a few cases of deformed palates, where there had been some degree of prognathism, had he found the sides of the triangle equal to or longer than the base. Then as to the point at which the interbicuspoid line cuts the triangle, Mr. Coles said that it ought to cut the triangle as nearly as possible at its centre, but he (Dr. Cobbold) had found that the point of intersection was always posterior to the centre, sometimes considerably so; and this not only in healthy palates, but also in the deformed palates of idiots and imbeciles. He had found some difficulty in understanding the difference between the brachoid and dolichoid palates. No doubt one might be able to distinguish them when looking at models, but he doubted whether even Mr. Coles himself could tell by looking at the triangles drawn from these models whether the palate was brachoid or dolichoid. Lastly, as to the part played by the intermaxillary bones in the formation of the shape of the palate, there was a great difference in the opinions expressed by Dr. Clay Shawe and by Mr. Coles. The former laid great stress on the shape of the superior maxillary and palate bones, and said that the intermaxillary bones did not influence the shape of the palate in any way. Mr. Coles, on the other hand, asserted that they played the chief part in determining whether a palate would be long or short, prognathous or upognathous, and in this matter he was inclined to agree with Mr. Coles.

Mr. CHAS. TOMES said it appeared to him that any approximation towards a diagrammatic form on which some of

the facts about the jaw could be expressed was a great gain, and it would be a very great gain indeed if we could, by means of a compact diagram, see at a glance all the more important facts which we wished to know about a jaw either with a view to treatment or to comparison with others. Looking at the points which Mr. Coles had chosen to record, he did not think they were quite the most useful for general purposes, though no doubt they were very useful for the investigation which Mr. Coles appeared to have had chiefly in view. Even as it was, he thought Mr. Coles's method open to some objections. Thus, for the extremities of his base line he took the middle of the second molars, *i.e.* the middle line of the alveolar ridge, but for the terminations of his interbicuspid measurements he took, not the middle of the alveolar ridge, but the inner surface of the necks of these teeth. The result of that was that the base line was longer in proportion than the interbicuspid line, and the antero-posterior lines were also affected, because any difference in the size of the crowns of the molars would throw backwards and outwards the extremities of the base lines and increase the antero-posterior length. Then Mr. Coles had, for his own purposes, excluded the wisdom teeth, and had measured from the posterior surface of the second molars. He wished to investigate the variations in the size and shape of the jaw, and he had excluded the most variable element. This might suit his own purposes, but it unsuited the diagram for general use.

Then with regard to Mr. Coles's classification. He divided jaws into macroid, microid, dolichoid, and brachoid. Now, the terms dolichoid and brachoid were meant to contrast with one another, but the forms of jaw which he described under these names were not contrasting forms. His dolichoid jaw was distinguished by its relative proportions, by a comparison of its width and length, but the brachoid jaw was defined, not by comparative, but by absolute measurement; Dr. Cobbold had brought forward the same objection in another form.

Again, Mr. Coles's hypotheses with regard to intermaxillary prognathism, seemed to him, if not altogether untenable, yet certainly "not proven." Mr. Coles described a form of prognathism as occurring in civilised races in which the teeth were prominent and stood apart and the jaw could not be described as a perfect arch with perfect teeth in it. This he compared with the prognathism of the lower races in which the arch of the lower jaw was perfect and the teeth set in it with the utmost regularity. He thus compared a morbid condition with one that was not morbid, and a conspicu-

ously fine jaw with a remarkably poor one. Then Mr. Coles stated that his triangulation of the jaws of some of the lower animals brought out a remarkable resemblance to his intermaxillary prognathous jaws. But if you take a monkey's jaw and compare the sizes of the different teeth, it would be found that the proportions they bear to one another were quite different to those of man. Moreover, in the monkey's upper jaw there was a great interval where the lower canine fits up in front of the upper. We had then a triangulation which gave identical results in the two cases, but on looking at the jaws we found that there were most conspicuous differences. He thought that instead of saying at once "Here we have an explanation of prognathism occurring in civilised races, it is a reversion towards a lower type," &c., one ought rather to suspect something wrong with the method by which the identical results were obtained. There was another matter which Mr. Oakley Coles left out of account in his explanation of intermaxillary prognathism. If you drop a vertical line from the front of the orbit to the jaws, what point would it strike in the monkey's, and what in the intermaxillary prognathous jaw? unless it struck the same point the comparison was again weakened.

On the whole, although he thought that Mr. Coles had made a step in the right direction, he thought it would have been wiser if he had put forward his method in a more tentative and experimental form, and had omitted the abstruse questions with which he had embarrassed his paper. He thought that in the carrying out of the scheme there were still many details to be considered, and that it would in some points have to undergo important modifications before it could be generally adopted.

Mr. COLES, having been called upon by the President for his reply, said it was very difficult for him to reply off-hand to the elaborate criticisms which had been brought forward that evening. First, with reference to the influence of the sphenoid in its growth on the bones of the face, his observations were based on the authority of Mr. Hilton, who, in his work on the skull, attributed the development of the features and the character of the face chiefly to the growth of the sphenoid.

Then, as to the number of cases of prognathism on which his observations were based. He had had under observation for many years a family in which a brother and sister and the two children of the former were all prognathous. The deformity was very marked in the case of the brother and sister, whilst the process of development could be watched in the case of the children. With reference to the ape-like

faces of the prognathous and the inquiry as to what central lesions he referred to, his answer was that he referred to the lesions which were seen in cases of idiocy and imbecility, and which were to be found in Dr. Langdon Down's asylum; amongst his patients these race characteristics were more distinctly marked than they were in the large public asylums, where the children came from a lower class.

He had carefully avoided any allusion to the value of the form of the palate for the purpose of prognosis. He thought it would be extremely injudicious to attempt to base an opinion as to the future of a child on any such grounds. In answer to Mr. Balkwill he would say that the curve to which he referred was perfectly familiar to him, but it did not seem desirable to embarrass the paper with these extra particulars.

He would not occupy the time of the Society by attempting to answer all Mr. Sewill's criticisms, but if ever he should read another paper before the Society he would take care first to submit it for Mr. Sewill's approval. He was very glad to listen to the remarks of Dr. Cobbold, and to hear his explanation of the dissimilarity between his own measurements and those of Dr. Clay Shawe. He had not intended to bring forward his classification as perfect, and had not for a moment expected that it would be accepted as such; but he had hoped that by discussion the subject would be ventilated, and that others would be induced to investigate the matter. The criticisms of Mr. Tomes were very valuable. He quite acknowledged the justice of his remarks respecting the difference in the mode of measuring the interbicuspid and the base lines, and he thought that perhaps it would be best to take both measurements from the inner surface of the teeth just above the margin of the alveolus. Then as to the prognathism in the lower races, it would be found on examining the jaws of, say, the Hottentots, that there was a certain amount of interdental space, corresponding in some degree with the space found in the apes, and which also corresponded with the interdental space found in pathological prognathism.

The point about obtaining a vertical plane was a most important one; it was a source of error which he fully recognised, but which at present he did not know how to deal with, for no one appeared able to suggest an absolutely fixed point at the base of the skull from which the distance to the interbicuspid line could be measured, and this alone would enable the degree of prognathism to be determined.

He only hoped that others more competent than himself would go on with this investigation; he should be quite

satisfied with the knowledge that he had helped to bring it to the front, and had induced others better fitted for the task than himself to complete this much needed classification.

After the usual vote of thanks to the contributors of the evening the meeting terminated.

ODONTO-CHIRURGICAL SOCIETY, EDINBURGH.

WALTER CAMPBELL, Esq., L.D.S. Eng., President, in the Chair.

ANNUAL MEETING, MARCH 13TH, 1880.

THE minutes of the previous meeting and the Treasurer's report having been read and approved,

Mr. Edwin Alfred Cormack, Edinburgh, was balloted for, and duly elected a member of the Society.

The following members were then elected office-bearers for the ensuing year—

President.—Walter Campbell, L.D.S., Dundee.

Vice-Presidents.—Charles Matthew, L.D.S., Edinburgh, and J. R. Brownlie, L.D.S., Glasgow.

Treasurer.—Andrew Wilson, L.D.S., Edinburgh.

Secretary.—Wm. Bowman Macleod, L.D.S., Edinburgh.

Curator and Librarian.—George W. Watson, L.D.S., Edinburgh.

Council.—David Hepburn, L.D.S., Edinburgh; Alexander Cormack, L.D.S., Edinburgh; William Chisholm, L.D.S., L.R.C.P. & S., Edinburgh; L. J. Platt, L.D.S., Stirling.

The Treasurer's and Secretary's reports were of an exceedingly gratifying nature, showing that the income and membership were steadily increasing and keeping pace with the increased facilities for professional intercourse and culture, which the possession of a fixed habitation enables the Council to provide for its members.

A hearty vote of thanks having, on the motion of Mr. WILLIAMSON, been accorded to the retiring office-bearers, the following resolutions, of which due notice had been given in terms of the laws, were unanimously passed, and ordered to be incorporated in the constitution of the Society:

“That the membership be divided into two classes, Resident and Non-Resident. The former to consist of those members residing within a ten miles' radius of the city, and that the annual subscription of the Resident Members be

assessed at one guinea, the Non-Resident as heretofore at one half guinea."

It was also agreed that a library be formed, and some of the Dental and medical journals be kept on the table of the Society's room, which would be open to members as a reading-room one evening each week during the session.

It was remitted to the Council to make the necessary arrangements.

On the motion of the President, Robert Hepburn, Esq., L.D.S., London, was unanimously elected to the Honorary Membership of the Society, as a mark of the esteem and respect in which he was held, and a slight acknowledgment of the many favours he had conferred on the Society from its institution to the present time. The following "Notes of a Demonstration on Comparative Dental Anatomy" were then delivered by Mr. Leslie, Demonstrator of Zoology in the University of Edinburgh:

The two genera—*Echidna* and *Ornithorhynchus*—constitute a group, the Monotremata, which, although possessing the essential mammalian characters, approach in many points the lower classes of birds and reptiles. As in birds, the cranial bones are anchylosed in the adult into a single piece, and the termination of the alimentary canal and the ducts of the genito-urinary organs open into a common chamber—the cloaca—as in reptiles and birds.

In *Echidna*, the facial part of the skull is prolonged and avian. Neither upper nor lower jaw have teeth. The mandible is mammalian in type, inasmuch as it consists of two symmetrical rami, extending from the cranial wall to the median symphysis, and thus differs from the compound mandible of birds and reptiles, but it is much more feebly developed than that of higher mammals. When teeth are strongly developed, the mandible exhibits several well-marked processes, the angle, coronoid process, and condyle. In *Echidna*, each ramus of the mandible is a slender bar of bone on which these processes are merely indicated. A correspondence exists between the degree of development of the mandible and of teeth, and this is well illustrated by comparing the skull of *Echidna* with that of the carnivorous or entomophagous marsupialia as *Dasyurus* or *Perameles*. Although teeth are absent, yet a compensatory arrangement is found on *Echidna*, which fulfils the same function. It possesses transverse rows of hard spines on the palate and dorsum of the tongue, and between these, insects, which form the food of the animal, are crushed. Corresponding adaptations of some part of the alimentary canal may always be looked for in animals which, while devoid of teeth, subsist

on hard food. This is well seen in the hardening of the lining membrane of the gizzard in graminivorous birds. Of the so-called Edentata, the genera *Manis*, and *Myrmecophaga* agree with *Echidna* in being edentulous. In the true whales teeth are never present in the adult, all other mammals possess teeth.

In chelonians and birds the jaws are encased by horny sheaths, which are formed by a hardening of the general epithelium of the oral margin. In some birds, as the parrot, the dental papillæ are always developed in the embryonic condition, but the teeth abort. In the human gums, and in those of many mammals, heaps of epithelium have been found, which are probably the true homologues of the horny jaw sheaths.

In *Ornithorhynchus* a dental armature is developed on the bones of the jaws. The teeth, however, differ from those of other mammals in structure and situation. They possess neither dentine, cement, nor enamel, but are horny laminæ, mere hardenings of the epithelium, and therefore resemble the avian sheaths. These epidermic pieces are present in the anterior part of the jaws as triangular plates, of which there is no trace in the macerated skull. Posteriorly there is a quadrate horny plate on each side of the upper jaw, and corresponding to these are depressions on the bones forming the margin of the gape. Similar plates and depressions exist in the mandible. In the upper jaw, the depressions which receive the posterior teeth are formed most largely by an expansion of the anterior pier of the zymotic arch, and consequently both maxillary and malar bones participate in their formation. In the higher Mammalia and in the Crocodilia, teeth are never implanted in the malar bone, but are confined to the premaxilla, maxilla, and mandible. The premaxilla is often edentulous. In the lower groups epidermic teeth may be developed on other bones, as the vomer, pterygoid, palatine, and, in certain fishes, on the branchial arches.

In the higher vertebrata, teeth are usually placed in a single row in both jaws. In a family of rodents, comprising the genera *Lepus* and *Lagomys*, accessory incisors are developed behind those of the premaxilla, and, in a reptile, *Sphenodon*, two longitudinal rows of teeth are present in the upper jaw, one row being implanted in the maxilla, and the other in the palatine bones; the mandibular are received into the groove between the maxillary and palatine teeth. In amphibians and fishes, teeth, when present, are usually multiple.

When present in large number the individual teeth usually present little differentiation. In the dolphin, in which they

are about 200 in number, they are simple cones, and this may be regarded as the typical form. In *Orycteropus*, in which the teeth are compound, each being formed by an aggregation of denticles, they are simple or double cylinders. Animals having teeth of a uniform pattern are termed homodont.

The rodents are the best type of the first stage of differentiation. In these the teeth are of two kinds, viz. anterior, chisel-shaped incisors adapted for cutting, and posterior teeth, having broad crowns, and adapted for grinding the food; separating these front and back teeth, is a wide diastema.

A further stage is seen in the development of a tooth, the canine, between the anterior and posterior sets. This tooth, situated at or near the suture, between the premaxilla and maxilla, generally presents the typical conical form, whilst those in front and behind it diverge from the type.

The predominant influence which the mode of life and the nature of the food exerts on the development and form of the teeth, is best exemplified in the Australian *Marsupialia*, a group which, although possessing well-marked common characters, assume the functions which in other regions is fulfilled by groups of less closely allied animals. The wombat (*Phascelomys*) exhibits a dentition corresponding to that possessed by the order *rodentia*, having a single large incisor on each premaxilla and corresponding teeth in the mandible. It has no canines, and the flat-crowned molar teeth are few in number.

In the kangaroo (*Macropus*) the dentition approaches that of the *equidae*, but the number of incisors in the lower jaw is small. Canines are developed in the young in the upper jaw, but in *Macropus* they disappear in the adult. In *Hypsiprymnus* the upper canines persist.

The bandicoot (*Perameles*) represents a group of marsupials, the teeth of which show a parallel stage of development with those of the *Insectivora*, the incisor teeth are increased in number and reduced in size, the canines are small, and the molars are tuberculated.

Dasyurus may be taken as an example of the carnivorous marsupials. In it, as in the true carnivora, the incisors are small, the canines largely developed, long and pointed, and the molars and premolars are sharp and cutting.

Other interesting facts are revealed by the study of the dentition of the *Marsupialia*. In the majority of mammals the teeth which are first developed are deciduous, and are replaced by a permanent set. In the *Marsupialia*, however, this replacement is always limited to the anterior milk

molars. In the skull of the kangaroo-rat (*Hypsiprymnus*), now exhibited, the process of replacement is seen. In the alveoli of the right side are four quadrate molars, and, anterior to these, a single premolar. In the left side, in front of the four trenchant molars, there are two deciduous molars. These two molars are, however, being replaced by a single premolar, which has been exposed by removing the portion of the facial surface of the maxilla, which forms the outer wall of the alveolus. If this tooth had come into position it would have replaced the two anterior deciduous molars, and the dentition of right and left sides would have been similar.

The CHAIRMAN.—Gentlemen, before we proceed, we will be glad to hear remarks by any one upon Mr. Leslie's admirable paper.

Mr. WILSON.—We are extremely obliged to Mr. Leslie for the paper read to us, and more especially for bringing before the notice of the Society such a splendid collection of Marsupial skulls as has been laid on the table. The Marsupials were well adapted for illustrating dentition, as we had all the different types within a limited number of species. I think the Society should thank Mr. Leslie heartily for his kindness.

The CHAIRMAN.—We are certainly indebted to Mr. Leslie for his kindness in bringing so many specimens in comparative Dental anatomy, and I hope it will have the effect of inducing our young men to make comparative anatomy more a study than what it has hitherto been. It is an exceedingly interesting department of science, and has only to be entered on to be pursued with avidity. I would urge upon all young men coming forward to take our place, to prosecute the subject in its various branches; and I am sure we will all agree in according our warmest thanks to Mr. Leslie for complying with my request on so short notice.

Mr. WILSON.—I may add that the Medical Council have already brought comparative Dental anatomy conspicuously to the front, and the London Dental Board devote a large portion of their examination to the subject. There is therefore little chance of the matter being overlooked.

Mr. DAVID HEBBURN.—I would also thank our friend for his interesting paper. One thing I think that was brought out very clearly was that the formation of the teeth of animals depends very much upon their habits and food.

Mr. LESLIE expressed the pleasure it had given him to place his services at the disposal of the members, and only regretted that the short notice he had received had prevented him preparing a paper more worthy of the Society.

MR. W. BOWMAN MACLEOD, L.D.S., then read a paper "On the Behaviour of Plaster of Paris in Setting."

The subject of the communication which I have now the honour of laying before this Society is, "On the Behaviour of Plaster of Paris in Setting." Its intention is to bring under your notice the results of several experiments entered into for the purpose of demonstrating, by practical examples to my class, the minute amount of expansion which takes place during the setting of plaster of Paris, such as we ordinarily use in the laboratory, and which resulted—in so far as I was concerned—in drawing my attention to another characteristic which has hitherto been unsuspected, or if suspected, not sufficiently acknowledged as a factor in Dental mechanics. The presence of this peculiarity has, I believe, in many cases, produced faults in modelling and fitting which have been attributed to other causes; and a remedy having been sought for in the wrong direction, has not hitherto been found. I refer to the rocking of plates upon the middle line of the palatine arch, the general misfit of plates, and the opening of the joints in gum blockwork. To prove that plaster expanded, I cast a quantity of it within a square of two feet, the sides of which were enclosed with iron plates three quarters of an inch in depth, and closely fitted together but unattached, supported by angle ties, and retained in position by a piece of cord tied round their outer circumference. The plaster was cast within this area, and as it set sufficiently to hold itself together, the cord was cut, and the mass allowed to crystallise without being bound laterally. On measuring this block the following day, I found that it had increased by $\frac{1}{16}$ ths of an inch in length, and the same in breadth. This being reduced proportionally to the average breadth of the dental arch, would certainly have made very little difference, practically, in the fitting in the majority of cases, being only the $\frac{1}{37}$ th part of an inch of expansion on the average denture. But I found that not only had the plaster expanded, but the upper surface was raised; and on sawing the block through in a diagonal direction, I found that instead of the block lying dead upon the plane beneath, it presented a concave surface towards the plane, the highest point of which measured half an inch. This showed, first of all, that the plaster had not only expanded, but had done something more than its now greater length and breadth would lead one to suspect; for in thus taking a concave form, it must have either retracted to an equal extent, or expanded in an irregular manner, causing warpage.

Making still further experiments by casting plaster in the

ordinary impression cup, I found, invariably, the same result produced, and that the centre portion—the palatine portion—of the cup always presented an open and well-defined space between the upper surface of the impression cup and the lower surface of the hardened plaster. This circumstance, therefore, would produce in your model a fault similar to that resulting from the sucking of the waxy or resinous impression materials, and, as you can readily see, would give you a much higher dome than that of the natural arch. Hence the rocking of the plate, which has hitherto been attributed—if my deductions be justified—to every cause but the right one. Continuing my researches, I found that although in the equal surface and depth of the modelling tray the defect always ran in one direction, yet on pouring the plaster into irregular moulds, such as the impression of the mouth, the position of the point of warpage was not always persistent, but seemed to be controlled by the thickness of the superincumbent layer of plaster, and this led to the conclusion that while in some instances the defect would determine itself on the palatine ridge in the shape of an exaggerated dome, at other times, and that more frequently in under dentures, it would express itself in irregular lateral expansion, and consequent misfit, upon the posterior portion of the alveolar ridge. Naturally, then, I began to inquire how this defect might be overcome, and I find that by the addition to the water with which the plaster is mixed, of potash alum (hitherto used entirely for the purpose of quick setting in impression taking), in the proportion of from three to four ounces to the gallon, you will entirely overcome the irregular expansion and consequent warping which takes place in coarse plaster of Paris as used with water alone. But here you have the two blocks of equal dimensions—one cast with water, and the other with potash alum water. It requires no explanation on my part to point out the difference between the two. In the one case, the expansion is $\frac{1}{8}$ ths of an inch; warpage, half an inch. In the other, expansion, *nil*; and warpage, ditto; and the two surfaces, dead. You have here a series of impression cups of various sizes and shapes, filled with plaster, cast with pure or plain water, and with potash alum, and which require but to be examined to convince you of the fact of the deadness of plaster of Paris when treated with potash alum, and its behaviour under ordinary circumstances. The conclusion I draw from this is, that all plaster, either for impression taking or for models, should be cast with potash alum, when strict and definite results are to be obtained; and that in the case of gum block work, that opening of the joints—which

has hitherto caused so much trouble to practitioners, and, to a great extent, has prevented the more general adoption its other merits might have commanded, and which has drawn out many suggestions as to the best mode of prevention—the opening of the joints may now be entirely prevented by the use of potash alum for both matrix and model within the flask.

The CHAIRMAN.—This is an exceedingly important matter, and after we hear the remarks you may have to make, it would be advisable to consider the subject a little more thoroughly at next meeting, because we ought to experiment with potash alum, to see whether our practice will bear out these results, as doubtless it will.

Mr. WILLIAMSON.—I think this is a very interesting matter, and we are much indebted to Mr. Macleod for bringing it before us. As I will not be present at next meeting, I am pleased to have this opportunity of stating my views on the subject. I have been in the habit of trying to obviate the well-known expansion of plaster of Paris, by using as little as possible in the mould for the roof of the mouth. Very frequently I took an impression in common wax, cut away a small portion of it, and used it with the plaster. In that case there can be no expansion of plaster, because there is no body. I was in the habit of filling up the centre of my impression cup with wax, with the view of giving the plaster no opportunity for expansion.

The CHAIRMAN.—As far as I remember, I never heard it stated in any society that plaster was prevented from contracting or expanding by adding something to it. Mr. Macleod deserves the thanks of the meeting for bringing the matter before us. In the meantime I would recommend the members to experiment with it before next meeting.

Mr. LEON J. PLATT, Stirling.—Would this warping affect “the bite?”

Mr. MACLEOD.—The “slab,” or “flat articulation block,” frequently caused grave errors in the “bite” by its twisting and warping; the error being attributed to the false “shut” given by the patient. The remedy is, use potass alum.

Mr. WILSON then exhibited the model of the lower jaw of a lady, thirty years of age, in which a second temporary molar was perfectly firm, and doing duty, while she had lost both first and second permanent molars, and had cut her wisdom teeth, which were in good condition. This persistence of these temporary teeth gave rise to the idea, upon superficial observation, that there were occasionally four instead of three molars to be found in the human mouth.

Mr. W. B. MACLEOD said that as there were no other cases

of interest before the Society, he would now, with the permission of the President, bring under their notice a new combination anæsthetic, which he had been using for some time past in his private practice, with very successful results. It consisted in combining the administration or the exhibition of ethilene di-chloride with nitrous oxide gas. The manner of administration was simple. It consisted solely of placing a small piece of sponge, retained in position by a clip, within the way tube of the supplementary bag of the nitrous oxide inhaler, leaving sufficient space on each side of the sponge for the free passage of the nitrous oxide into and out of the bag. Only a very small quantity of ethilene di-chloride was required, namely, about half a drachm. The time of inhalation, to produce anæsthesia, measured from sixty to seventy seconds, and the time of complete anæsthesia—said to be more profound and agreeable than when induced by nitrous oxide alone—was from one and a half to two and a half minutes, which embraced a period of time sufficient to enable most of the operations required in Dental surgery to be comfortably performed. He further mentioned that in all the cases in which he had used this combined anæsthetic, upwards of sixteen in number, there had been complete absence of sickness, and only one case in which there might have been said to be the slightest approach to stertorous breathing. The pulse was slightly more accelerated than normal, but was full and strong; and there was the absence of lividity, which rendered the administration of nitrous oxide so disagreeable, and in some cases repulsive to the onlooker—the lips alone, on the removal of the face piece, presenting in any case—and that only occasionally—the faintest appearance of lividity. It had also this decided benefit over the single administration, that it produced a relaxation of the muscles, so contrary to the almost spasmodic rigidity induced by nitrous oxide. He mentioned the matter not in an official manner, as experience would scarcely warrant a final and decisive opinion, but simply that during the recess the attention of members might be directed experimentally towards this combination, and that it might form the subject either of discussion or of a paper at the first meeting of the new session.

The CHAIRMAN.—I suppose it will be something like chloroform in relaxing the muscles?

Mr. MACLEOD.—Yes.

The CHAIRMAN.—And it has not the disagreeable odour ether has?

Mr. MACLEOD.—It is not so pungent as ether, and is far more agreeable than chloroform.

Mr. BIGGS, Glasgow.—The ethilene di-chloride anæsthesia was tried in my house about a year ago by Professor M'Kendrick and Dr. Joseph Coutts. It was tried on one of the lecturers of the infirmary with great success, but I have never seen or heard of its being used in combination with the nitrous oxide gas.

Mr. MACLEOD.—I have extracted thirteen teeth in the one exhibition of gas, and that is what no one would do with the oxide alone. The roots were firm, and the patient felt no inconvenience arising from its use.

The CHAIRMAN.—I have seen ether introduced after the patient was beyond the second stage under the gas to prolong the anæsthesia. It is exceedingly pungent and disagreeable, but when it is introduced in this way it is much better. Mr. Macleod's suggestion, however, is very simple, and well worth a trial.

Mr. MACLEOD having acknowledged the vote of thanks,

The CHAIRMAN said, I have now to thank you for having re-elected me as President of this Society. We have had a very pleasant session, although perhaps not so fruitful in papers as on other occasions, yet our meetings have been exceedingly profitable and interesting. The subjects before us have been of a very practical nature, and we have all derived considerable benefit from our meetings. Unfortunately, the most active of our members have had their time fully occupied in preparing lectures for the new school which has just been established, but after these are disposed of we will likely get their energies more directed to our Society.

THE DINNER.

In the evening the members of the Society and Licentiates dined together in the Balmoral Hotel. Mr. W. WILLIAMSON, L.D.S. Eng., Aberdeen, occupied the chair, and Mr. WALTER CAMPBELL, L.D.S. Eng., Dundee, was croupier. Amongst others present as guests of the Society were Mr. F. B. Imlach, P.R.C.S. Ed., J. Smith, M.D., Joseph Bell, M.D., Andrew Wood, M.D., Mr. Lindsay Mackersy, W.S.

After the usual loyal toasts had been duly honoured,

The CHAIRMAN proposed the toast of the "Dental Diploma," and said it must ever hold the first place in their estimation, and precede all the other professional ones. It is just twenty years since the agitation for Dental reform, which had been carried on by the supporters of a Dental College and the Odontological Society for four or five years previously, culminated triumphantly in the granting

of the Dental diploma by the Royal College of Surgeons of England. The more sanguine supporters of the movement may have been disappointed by the comparatively small number of eligible practitioners who came forward to obtain it at first, and the slow increase of the students' roll in its early days; but the leaven of professional progress was introduced by that act, and a spirit of energy and determination to attain higher aims evolved, which led to farther advances in the same honorable path. They now have the pleasure of welcoming the "Dentists' Act," the consummation of the ardent hopes and wishes of all those who had so long and so nobly fought the battle of progress against the *vis inertia* of the great mass of the profession. He believed that by the action of the British Dental Association, the heterogeneous list of Dentists will be purged as far as it is legally possible to do so. They should ever keep in view the fact that all additions to the professional body henceforward must have passed through a properly qualifying curriculum and obtained a diploma, so that in another quarter of a century the number of unqualified practitioners will be but a handful in comparison with the great body of the profession. Another good effect is the establishment of Dental boards by the colleges in Edinburgh and Glasgow and the granting of Dental diplomas by these boards. In conclusion, he begged to say that they now have all the necessary levers which education and law can give for the elevation of the profession, and to these let each and all endeavour to add the lustre which every calling is capable of receiving from the integrity and honorable conduct, as well as the skill, of its individual members.

Dr. ANDREW WOOD, of the Medical Council, proposed "Prosperity to the Odonto-Chirurgical Society." It had been to him a source of the greatest comfort and happiness that, at last, the Dental profession was being put upon its proper foundation.

The CHAIRMAN replying, said, in the name of the Dental Licentiates and the Odonto-Chirurgical Society, he had much pleasure in heartily welcoming Mr. Imlach, President of the Royal College of Surgeons, and the Members of the Dental Board who graced them by their presence.

Mr. CAMPBELL (Dundee), proposed "the Odontological and other Sister Societies," and remarked that so many of the scattered members of the profession uniting together in societies is a sign of health and vigour. It is now twenty-four years since the Odontological Society was formed, since then it has done a great amount of good work. There is not an English-speaking Dentist, worthy of the name, but

must have derived much useful knowledge from the Society. He would also say, that the great Dentist-consulting public have been saved an amount of suffering not easily over-estimated by this noble, though not yet royal, Society. The other sister societies are the Association of Surgeons practising Dental Surgery, the Western Counties, the Midland Counties, the Glasgow, and the Dublin societies; and last, but by no means least, the British Dental Association, with its monthly journal given gratis to members.

Dr. JOHN SMITH, in proposing "The Dental Hospital and School," said he regarded the institution as the very life-centre and back bone of any Dental curriculum. If it had not arrived at the full state of a perfect Dental school, they should remember it was still in its infancy; but it had made such progress as to justify them in anticipating that it would yet reward its promoters for all the time and trouble they had expended in its behalf.

Mr. HEPBURN proposed the "Licensing Bodies," and said the toast had a wide significance, but he would apply it particularly to the Royal College of Surgeons of Edinburgh, some of whose representatives were their guests that evening. To the Royal College of Surgeons of England they were also specially and deeply indebted, that body being the first to lend a helping hand, and the weight of its powerful influence, to those movements and measures which had resulted in raising their profession to the honorable position it now held. The wisdom of the course adopted had been evidenced by the fact of its adoption by the legislature, and by licensing bodies in Scotland and Ireland. These national institutions must command a tribute of respect from all who could appreciate whatever was venerable, whatever was great, whatever was good and noble. They had sent forth, and continued to send forth, an army of educated and cultured men to battle against disease and death, and that battle was fought faithfully. Nor was it alone in their strife with disease in its various forms that these men had earned for themselves honour, but in the fields of literature, science, and art, they had not only won laurels for themselves, but a world-wide fame for the institutions and the country to which they belonged. He expressed a hope that the members of the Dental profession recently affiliated by these bodies would strive to emulate a like reputation.

Mr. F. IMLACH, in reply, said that their branch of the profession in Edinburgh had now attained a recognised position through the great exertions and talents of a gentleman present, whom he certainly in this assembly did not require to name, for the work he had done in bringing into form the

necessary scheme for education and examination was well known to them. He next referred to the healthy rivalry between the various schools throughout the country, which, he said, would have the effect of turning out the best class of practitioners, and increase the opportunities for scientific and practical study in the shape of museums and mechanical schools, besides adding to the number of lectureships in the profession.

Mr. W. BOWMAN MACLEOD, in proposing "The Licensing Board of the Royal College of Surgeons, Edinburgh," said that as one who had lately passed in review this dreaded tribunal, he had great pleasure in having this opportunity of revealing some of the awful secrets which were supposed to be enshrined within the hallowed precincts of an examiner's room. Those who had undergone an ordeal of that kind were more disposed to look lightly on the same than those who had the prospect of doing so. He, with others around that table, had experienced both sides of the question, and felt very happy at this moment, whatever they might have done prior to their examination. Like all objects which were viewed through the spectacles of fear, the Examining Board appeared to be a huge monster, whose sole object and existence seemed to be to pluck the feathers from, and then at its leisure devour, the innocent, confiding, and unsophisticated aspirants for professional honour who ventured within the range of its capacious mind. Now, however, looking through the spectacles of experience, he could say that never was there a more unfounded calumny foisted upon such an honest, fatherly, help-the-fellows-through-if-you-can, genial set of gentlemen than those composing the Dental Examining Board of Edinburgh.

Dr. BELL, in reply, said that his experience of the Dental candidates who came before the examiners, had been of an extremely pleasant and remarkably fortunate kind. Some of the examinations passed by gentlemen who had been since qualified as lecturers of their school had been of an admirable description.

Amongst the remaining toasts were "The Medical Council," "The Chairman," and "The Croupier."

The proceedings of the evening were enlivened by some excellent songs and recitations. The dinner was numerously attended, and most successful.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

WEDNESDAY, MARCH 17TH, 1880.

W. A. N. CATTLIN, F.R.C.S., President, in the Chair.

Mr. FRANCIS FOX read a paper on "Irregularities of the Teeth and their Surgical Treatment." The early decay of teeth which marks the present generation is due, the author thought, to mal-nutrition occurring in the earlier periods of life. At about seven months after birth a process of absorption is set up in the walls of the crypt and parts superimposed, and by this process the crowns of the temporary teeth become visible above the surface of the gums. When the crowns of the teeth have erupted this absorptive action for a time ceases, and a renewal of the developmental process ensues, by which the alveoli are built up around the fangs of the teeth. At about four years of age the temporary dentition is perfected, and soon after this perfection is reached absorption again sets in, commencing now in the fangs of the teeth, and these, together with their alveolar processes, are gradually removed, their permanent successors replacing them by a similar process of absorption of crypt and development of alveolar structures. The important point to bear in mind is the fact that the alveolar portion of the jaws is developed with each dentition, so that a previous alveolar structure can have little to do with the position of the succeeding teeth, except as it may present an obstacle to their onward progress in consequence of its non-absorption. As to the development of the jaw bones, Mr. Fox remarked that these bones consist of two portions, (1) an alveolar structure, developed with the temporary teeth, absorbed with them, and again redeveloped with the permanent teeth, and (2) a basal portion. This base is more prominently marked in the lower jaw, in which the inferior dental canal very emphatically indicates the junction between the two portions of the bone. The base of the jaw when once formed remains in pretty much the same condition throughout life, except in advanced old age when the muscles of mastication are no longer in full use, and then in a slight degree it becomes wasted. In the superior maxillæ at birth the alveolar processes descend but little below the level of the palatal plates, and the anterior and posterior parts are but little developed. As age advances the alveoli lengthen, the tuberosities increase in size, and an active development of bone takes place in these situations. The tuberosities are to the upper

maxillæ what the coronoid processes are to the lower jaw. From these points the alveolar line is lengthened. In the lower jaw an alteration in the position of its articular surfaces and ascending rami, together with an absorption of the coronoid processes, accompanies the development of the posterior permanent teeth. The jaw elongates by additions to its posterior cornua. The capacity of the jaws in childhood is nearly equal to the anterior portions of the adult bones; for the ten anterior teeth of the permanent set in each jaw replace the temporary and occupy the same position as these, so that this part of the jaw in adult life is pretty much the same as in childhood. If contracted then it will remain so throughout life, and no subsequent development in the posterior regions will tend to expand it. The replacement of the temporary teeth by their successors is effected by a purely physiological process, and is absolutely independent of pressure. There seems to be a physiological law by which the cells composing the absorbent papilla in the neighbourhood of a developing tissue have the power of absorbing a mature structure. That pressure has nothing to do with the process may be proved by the fact that, in cases in which the shedding of the first teeth has taken place prematurely, a layer of bone has often been observed to intervene between the crown of the advancing tooth and the base of the socket of its predecessor. At the time when the temporary teeth are about to be shed, in the well-developed jaw, a decided separation between contiguous teeth is noticeable; and this circumstance is a fair indication of a future regularity in the succeeding dentition, and a proof that this portion of the jaw has already been prepared to receive the larger permanent teeth. If the process of absorption continues uninterruptedly, the fangs of the temporary teeth will be gradually removed, leaving little more than the shells of the crowns, which readily drop from the gum as their successors are in turn ready to occupy their places. But should any arrest in this process occur (and such is far from an uncommon circumstance), these temporary organs are liable to offer very considerable obstacles to the regular advance of their permanent successors. The causes of irregularity in the position of the teeth may arise during the developmental periods of life, and are then due to a want of proportion in the size of the teeth and jaws, or to a faulty development of the jaw-bones; or the displacement may depend upon some accidental circumstances arising subsequently, such as the prolonged retention of the temporary teeth, the presence of supernumerary teeth, the habit of "thumb-sucking," or

the undue pressure from an hypertrophied tongue. There is abundant evidence to prove how frequently such deformity depends upon hereditary influences. The conditions of life to which our race has for so many generations been subjected seems to have lessened the necessity for the broad and well-formed jaws which were so characteristic of our ancestors, and for many years the advances in civilisation have been marked by a deterioration in the capacity of our jaw-bones. Mr. Coleman, in some interesting investigations made several years ago, found that the percentage of contracted jaws was immeasurably greater in the children of the well-bred population than in those of less refined cultivation. The prolonged retention of temporary teeth is frequently associated with irregularity in their successors, and is probably often the cause of such irregularity. The presence of supernumerary teeth in the dental arch may prevent the normal members from assuming their proper places; but doubtless a disproportion of size between the teeth and jaws is of all causes of irregularity the most common. This disparity leads to a crowding of the teeth, sometimes to such an extent as to altogether prevent the eruption of some one or more of the dental series, such remaining impacted in the substance of the jaws. Certain injuries in early life may occasion displacement of the teeth, especially in the lower maxilla, such as the contraction of cicatrices about the face and neck. Mr. Salter, in his work on 'Dental Pathology and Surgery,' treats the subject of irregularity of the teeth under two heads—(a) simple irregularity in which the misplacement is confined to one jaw, and is independent of the position of the teeth in the opposite jaw; (b) compound irregularity, which depends upon the position of the teeth in the opposing jaw. In "simple irregularity"—that is, where the misplacement is confined to one jaw, the crown only of the tooth may be irregularly placed, the apex of the root retaining its normal position; or the entire tooth may be displaced, or faulty in its development. Such irregular teeth are often entirely removed from the dental arch, and may be impacted in the substance of the jaw-bones. In the former condition, when the apex of the root retains its normal position, much good may be effected by judicious treatment, but in the latter case little can be done to remedy the evil, except by the removal of the displaced tooth. As examples of "simple irregularity," we may mention the appearance of the upper canines above the alveolar ridge, or in the palate, owing to insufficient room for them in the dental arch. An early loss of their temporary predecessors, by

permitting the first bicuspid and the lateral incisor to approach each other, is not infrequently the immediate cause of this displacement. Sometimes, however, the retention of the temporary canine, or the presence of a supernumerary tooth, will occasion its deformity. An overlapping of the incisors is another form of "simple irregularity," and frequently requires for its treatment a resort to some mechanical appliance in order to obtain regularity in the position of these teeth. Another not uncommon form of irregularity is where an incisor tooth is more or less twisted, sometimes to such a degree that the side of the crown will occupy the position of its anterior surface. A forcible twisting of the tooth into its right position is very generally adopted. Some, however, are adverse to this prompt treatment, and suggest the employment of a plate carefully adjusted to the palate, and having certain properly-constructed points of resistance. An unsightly separation of the central incisors in the upper jaw sometimes occurs, and the teeth may be readily drawn together, but have a great tendency to return to their former position. In treating these cases great care should be taken to prevent the ligature from slipping below the edge of the gum—between the necks of the teeth and the gum—for the irritation set up by such a mishap has been known to cause the death of the tooth. In order to prevent this displacement of the ligature, a small vulcanite plate may be constructed to which the ligature can be attached, and thus prevented from shifting its position. The second form of irregularity of the teeth—that depending upon the position of the teeth in the opposing jaw—is much more complicated. As an example might be cited the "underhung jaw," in which the "bite" is intersecting; some or all of the six front upper teeth being shut behind the corresponding teeth in the lower jaw. This condition, in its extreme extent, arises from an undue development of the lower over the upper jaw, or from a want of development in the superior maxillary bones. It may also arise from a retardation in the eruption of the superior incisors, or by these teeth being pushed inwards by the prolonged occupation of the dental arch by their temporary predecessors. An early treatment of this irregularity is all-important, and should consist in preventing the contact of the opposing teeth. An opposite condition of the lower jaw sometimes occurs, in which the lower incisor teeth bite close up to the palate, so that they press against the necks of the upper teeth, and push them forward. A separation of the teeth in the anterior portions of the jaws has been described, and is occasioned by a congenital malformation of the lower

jaw. The early obliquity in the position of the ascending rami is unduly maintained, and there is a want of development in the alveolar portions of the jaws, especially in the regions of the molar teeth. This irregularity may be caused by the contraction of a cicatrix in the throat or neck. The bicuspid teeth are not infrequently misplaced, and, when so, they usually occupy a too inward position. This may arise solely from their having been prevented from assuming their proper position in the dental arch by the prolonged retention of the temporary molars. But usually it is dependent upon a diminished capacity of the jaw, and in the upper jaw is generally associated with a projection of the incisors, and a more or less elevation of the palate constituting the V-shaped jaw, or "rabbit-mouth." This malformation is congenital, but, except in very exaggerated cases, is not very manifest until the posterior permanent teeth are about to be erupted, when the additions to the superior maxilla have been made in the posterior regions. The newly-formed bone, which has been gradually developing, is now found to be placed at an angle with the pre-existing alveolar line. This abnormal development has arisen in order to effect an harmonious arrangement with the other bones of the cranium. The maxillary bones having been imperfectly developed during early childhood, their posterior borders not being sufficiently divergent, the subsequent additions for adult conformation are placed in a wider circle; hence the point of junction between the two parts (the old and the new, so to speak) is marked by an angle of more or less extent. It is usually associated with great delicacy of constitution, and may occur in those of weak mental powers, but is often observed in persons of great intellectual capacity. The treatment of these cases consists in endeavouring to gain increased space in the dental arch, and to diminish the projection of the upper front teeth; but is, as a rule, more or less unsatisfactory. Irregularity in the wisdom teeth is sometimes met with, and may occasion most serious mischief, when extraction is the remedy. Transposition of the teeth is rare, and is usually met with anteriorly; and also inversion, which is still rarer.

A discussion ensued, in which the President, Mr. E. Bartlett, Mr. Gaine, Mr. Parson, and others took part.

The President then announced that at the next meeting, on April 21st, Mr. Christopher Heath would read a paper on "Thirty-five Years' History of a Maxillary Tumour."—*Lancet*.

Miscellanea.

EDINBURGH DENTAL HOSPITAL.

MR. G. W. WATSON, L.D.S. Edin., will commence a course of lectures on Dental Surgery and Pathology in the Edinburgh Dental Hospital and School, on May 4th, at 8 p.m. These lectures qualify for the examination of the Royal Colleges of Surgeons, Edinburgh, London, and Ireland, and other licensing bodies. For further information apply at 4, Stafford Street.

KING'S COLLEGE.

We are pleased to see that Mr. Bertram Stevens, son of Mr. Stevens, of Chester, and a former pupil of the Dental Hospital of London, has obtained Certificates of Honour in Anatomy and Physiology at the Senior Competition Examinations held at the above College at the end of the present Winter Session.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

BRITISH DENTAL ASSOCIATION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I am now sending a copy of the enclosed letter to the Licentiates in Dental Surgery who have not yet joined the British Dental Association. As, however, the whole matter is equally applicable to those who are legally on the Dentists' Register, I ask you to give it a place in your Journal. Thanking you in anticipation,

I am, obediently yours,

JAMES SMITH TURNER.

BRITISH DENTAL ASSOCIATION,
40, LEICESTER SQUARE, W.C.
April, 1880.

DEAR SIR,—May I ask your serious attention to the published address of the Chairman of the Association of Surgeons Practising Dentistry, and also to the memorial presented by that Association to the General Council of

Medical Education, praying for the amendment or total repeal of the Dentists Act.

In those two documents you will see that the hostility always entertained by that body towards the Dentists Act is as pronounced as ever, and that their endeavours to deprive all but the holders of a Medical or Surgical Diploma of the right to use the title of Surgeon-Dentist is being prosecuted with unabated activity.

The British Dental Association has been established to carry out the provisions of the Dentists Act, and to protect the profession in the enjoyment of its privileges; it would thus appear that it is more especially entitled to the support of the Licentiates in Dental Surgery, whose hard-earned rights are so directly assailed.

I trust, therefore, that in common prudence you will consider it your duty to strengthen the hands of the British Dental Association by becoming a member thereof, and if you have not a declaration paper I shall be most happy to send you one on application.

I am, dear sir,

Yours very truly,

JAMES SMITH TURNER,

Hon. Sec. B. D. A.

HINTS TO STUDENTS WHO ARE CONTEMPLATING ENTERING THE DENTAL PROFESSION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—With your permission I should be obliged by your allowing me to give the future Dental students a hint or two, in a similar sort of way as I previously did some five years or so ago, in the columns of this Journal. The result of that letter, having induced men to qualify who would otherwise have not entertained the idea, induces me to again allude to this subject.

In the April number I noticed an announcement of "the summer session at the Dental Hospital of London Medical School," to the effect that it commences on Monday, 3rd May. I therefore think it a reasonable opportunity to offer a few remarks to many candidates before they decided on what school to study at. I think few will differ from me when I assert that our Metropolitan general hospitals and the special Dental Hospital in Leicester Square offer, without exception, the finest field for study in Great Britain.

We have at the present time different hospitals and schools for future candidates to glean their information from, practically and theoretically; but being in a position to know something of this matter, I strongly advise those entering

the profession not to be biased or influenced to the effect that this or that school is equally good, and does not necessitate residing in London.

An old practitioner once remarked to me that the Dental practice at a general hospital was as good for a student as that offered at the Dental Hospital of London. I had studied at the latter, and, consequently, could not agree with this absurd argument. Whatever be the temporary inconvenience or additional expense attached to studying in London, I would strongly urge it nevertheless. The advantages are so numerous that with a little reflection I feel sure any candidate must quickly perceive them. I will allude to the course of study, and refer the reader to Professor Erichsen's remarks ('British Journal of Dental Science,' August, 1879, p. 421), wherein he states :

"The examination which is required by the College of Surgeons embraces all those scientific and practical subjects which it is necessary for the Dentist to know ; and although many Dentists go beyond this, and take the membership and even the fellowship of the College of Surgeons, I can scarcely look upon such an extension of professional study as being necessary to the great body of your profession. In fact, in order to obtain the membership of the College of Surgeons, it would be necessary for the Dental student to acquire an amount of technical surgical knowledge which he knows will be useless, and which he intends to throw aside, and to forget as soon as he possibly can after he has obtained the diploma for which alone he has sought to acquire it. I think, therefore, that the L.D.S. diploma may be considered amply sufficient as a guarantee of the professional position and competence of any man who holds it."

I think if any candidate has the time, money, and inclination, to secure other medical and surgical degrees in addition to the enforced and recognised L.D.S. Eng., he will be acting wisely in securing them in these advanced times, when education in everything appears to be the order of the day. It is questionable whether possessing these additional diplomas make a Dentist practically a more skilful operator or mechanic, but all must confess that it tends to give a practitioner a better social position.

I will now close this subject by first thanking you for allowing me to occupy so much space in your valuable Journal, and I trust that some of your readers will coincide with my views in advocating our metropolitan schools as offering the finest field for study.

Yours &c.,

JAMES MERSON,

Late House Surgeon, Dental Hospital
of London.

DENTAL REFORM.

To the Editor of the 'British Journal of Dental Science.'

SIR,—May I be permitted to ask the English Correspondent to the 'Missouri Dental Journal' to keep a little nearer to the facts the next time he communicates with our Transatlantic brethren. His statement that it would be a great mistake to imagine that the original licentiates of the Royal College of Surgeons of England did not represent the *élite* of the profession is not strictly correct, for all of the highest standing, with very few exceptions, took the degree; and many of lower estate studied at the Metropolitan School of Dental Surgery, and some at the National Dental Hospital prior to 1863; and in those days only sixteen were allowed up each day, and out of that number two, and sometimes three, were plucked. Showing that it was a good examination. Now for the hospital, they did them in batches of fifty, and only plucked one on each occasion, and out of the two batches three men were passed who were plucked by the English in 1863. In the last Irish batch of passes was one who was plucked by the English college; and to write that the Irish licentiates are better qualified than the English is simply nonsense.

I am, &c.,

RIP VAN WINKLE.

THE BITER BITTEN.

To the Editor of the 'British Journal of Dental Science.'

SIR,—The enclosed circular has fallen into my hands quite by accident. I forward it to you as I take it to be my duty, you having, I may say, rated the Irish Dental diploma, I think, unnecessarily low, though, no doubt, that diploma is a protection against quackery. But, now, what is your opinion of a graduate of the English college, when a circular is issued to "servants and others," with the L.D.S. in full blaze upon it? I do this with feelings of no professional jealousy, simply asking for your impartial opinion.

Yours, &c.,

L.D.S. DUB.

[If our correspondent "L.D.S. Dub." (!) will look at the list of English Dental licentiates at p. 489 of our issue for September, 1879, he will *not* find the name of the individual he refers to; but if he turns to p. 635 of our number for October 15th he will find the advertiser's name in the list of IRISH Dental licentiates. We know the individual well.

This little incident shows the necessity of adding the initial of the college from which a diploma is obtained, and will, we are sure, tend to increase the growing custom of English and Scotch Dentists appending such initials as will indicate that they have not taken their degrees elsewhere.—Ed. 'B. J. D. S.']

THE DIPLOMA.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I was much pleased to see in your last number the excellent remarks by "Registered" on this question; and perhaps the experience of one who has been plucked will be of service to your readers, and prevent much heartburn and bitter reflections, by preparing them beforehand for what they have to undergo at the hands of the examiners, who, by the way, are principally medical men.

I have been a quarter of a century solely engaged in the profession, and in commencing found that if I was to make headway at all among my competitors I must keep my name, profession, and address, at least, before the public. However, after serious consideration, several years' preparation, and the withdrawal of my advertisement, I resolved to present myself for the examination; and my opinion is that it is simply ridiculous to expect those who are in practice, and who are thus unable to attend college, to answer questions which are entirely foreign and unnecessary for a Dentist to be conversant with. My examination was principally questions which would be expected in an examination for M.D. and chemist—about the bones of arm, leg, heart, pelvis, and other organs of the body; and on leaving I was told by the janitor or porter that there were very few of those in practice who came up for examination who were passed—about one in a dozen.

The results, as far as I am concerned, are as follows:—The preparation has cost me much anxious trouble and inconvenience, as well as expense. My receipts per annum from practice have fallen to less than half what they used to be. Thus the results have been to me most mortifying, and the conclusion I have arrived at is that, taking into consideration all those facts, the diploma, as the examination now stands, is not worth the trouble to those who are in practice; and it appears that at each successive examination the questions are more difficult and foreign to the Dental profession. I could enlarge upon this subject, but refrain from encroaching on your valuable space with the hope that others will thoroughly ventilate this subject. I am, &c.,

COMMON SENSE.
Digitized by Google

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 9th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:

Twelve Months (post free) 14s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.

5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

ANSWERS TO CORRESPONDENTS.

J. HARRISON.—Your communication shall receive immediate attention.

H. B.—See our advertisement pages.

Communications received from Thos. Fletcher, J. Bernard Magor, W. G. Weiss, Andrew Wilson, J. S. Turner, James Merson, "Rip van Winkle," "L.D.S. Dub.," "Common Sense," "Dens," "A. B.," "T. S. Z.," "A. Y."

BOOKS AND PAPERS RECEIVED.

- 'Monthly Review of Dental Surgery.'
- 'Chemist and Druggist.'
- 'Transactions of the Odontological Society.'
- 'Le Progrès Dentaire.'
- 'Gazette Odontologique.'
- 'Edinburgh Daily Review,' March 6th.
- 'Die Zahntechnische Reform.'
- 'Johnston's Dental Miscellany.'
- 'Glasgow Medical Journal.'
- 'Journal of the Chemical Society.'
- 'Deutsche Vierteljahrsschrift.'
- 'L'Odontologia.'
- 'Medical Register.'
- 'Dental Cosmos.'
- 'Lincolnshire Echo.'
- 'Missouri Dental Journal.'

British Journal of Dental Science.

No. 295.

LONDON, MAY 1, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

PARTIAL OCCLUSION OF THE MOUTH AND UNION OF THE JAWS BY FIBROUS TISSUE.

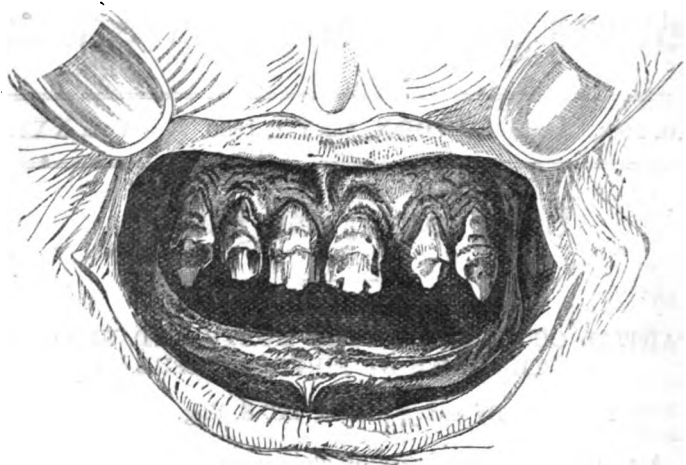
By FELIX WEISS, L.D.S. Eng.

A VERY remarkable case of closure of the jaws from cicatrices on both sides of the mouth has lately been brought under my notice, the history of which presents some features of peculiar interest.

E. H—, aged now 44 years, a stout woman, with fairly robust health, has upon both sides of the mouth broad fibrous bands, extending from the position usually occupied by the first bicuspid, backwards, closely binding the upper to the lower jaw, and uniting the cheeks on both sides of the mouth with the gums and alveoli, so that the patient is unable to open even the lips, excepting in the front of the mouth, forming there a flattened oval opening, about one inch and a quarter in length and three quarters of an inch in width. She has no power of separating the jaws at all, but this seems to be due more to the cicatrices formed on each side than from any osseous anchylosis, for upon severe pressure the lower jaw can be raised about the sixteenth of an inch at the front of the mouth. The patient now possesses the superior central and lateral incisors with the canines, but beyond this the thick bands of tissue form a semicircular margin, uniting the cheeks and gums together upon both sides of the mouth, fairly illustrated in the accompanying engraving.

When the patient first came under my notice a lower canine was standing, but as it had become elongated she ultimately succeeded in removing it herself. By passing a probe into the mouth on the left side of the upper jaw another tooth can be felt, which seems to be perfectly firm,

partly imbedded in soft tissue, and from its situation conjectured to be the wisdom tooth.



The early history of this singular case is very similar to those described by various authors, particularly by Christopher Heath in his book 'Injuries and Diseases of the Jaws,' but it also possesses interesting features of its own. I learn that between the ages of seven and eight she had a severe attack of scarlet fever, the gums sloughing, and eventually becoming united. Two years later an attempt was made to separate the gums by Mr. Stanley, in the presence of Dr. Hunter, and a wooden wedge was ordered to be kept between the front teeth so that the jaws might be kept asunder, but the operation does not appear to have been successful. Eventually a sequestrum came away from both sides of the upper jaw, containing the cusps of some of the unerupted teeth and the first permanent molars. Successive abscesses followed, smaller pieces of necrosed bone being discharged. The last abscess occurred when the patient was twenty-one years of age and remained open for eleven months, since which period very little trouble has been experienced excepting an occasional toothache, sometimes a gum boil forming, which has been relieved by the application of a poultice.

The object the patient had in visiting me was to see whether anything could be constructed that would arrest the gradual contraction of the cicatrices; for, she said, she felt convinced the space in front was gradually being reduced,

and she feared that ultimately, as the teeth fell out from the upper jaw, the opening might be closed altogether. When she possessed her lower central teeth she had no power to raise or depress the jaw, and had subsisted upon particles of food pushed through the opening seen between the lateral and the central incisors, but she always felt that she could not eat enough, her tongue getting tired long before she had satisfied her hunger, although judging from her appearance there was no indication of her being insufficiently nourished.

The first difficulty that presented itself was to get a model of the mouth, which could only be done by drawing back the lips and pressing Stent's composition against the upper teeth, and at the same time through the space between the edges of the teeth and the lower gum. A very delicate model tray was then made and loaded with composition, passed between the teeth, and an impression of the lower jaw taken. Upon this was modelled a vulcanite set of eight teeth, the ends of the vulcanite being rounded so as to fit accurately, and to rest against the bands of fibrous tissue on each side, the teeth being arranged at the front, inside the circle of the upper teeth, and at the sides outside, so as to prevent the piece from slipping into the mouth.

A question will be asked, What was the use of such an arrangement? First of all, the patient felt as long as she was wearing this work that the cicatrices were not contracting; and, secondly, the six upper teeth were kept in position and prevented, to a certain extent, from elongating so rapidly. Besides, strange as it may appear, this lady was still anxious about her personal appearance, and the lower piece being in kept out the lip and improved her looks materially. Another very remarkable effect was the change made in her articulation, being able to speak much more distinctly with the piece in, although her voice has a dental tone from the teeth being brought close together, yet her utterance is much more distinct than would be imagined under the circumstances. This little lower denture has been worn for more than twelve months, and as the patient has derived comfort from the arrangement its construction has not been altogether useless. It is unnecessary to say that it has to be taken out when she takes food or attempts to drink. We have every reason to believe that at one time the jaws could have been separated by an operation, but the patient had so strong an objection to any further interference after the first attempt it was never allowed again. It is difficult to conjecture what will be the effect of the loss of the remaining six front teeth, but it is a question whether these cicatrices will, after twenty years, further contract.

ACONITUM AND ACONITIA *VERSUS* VERATRIA IN FACIAL NEURALGIA.

By G. H. J. ROGERS, Esq.

MR. FLETCHER has expressed his surprise, at p. 320 of your Journal, at the omission of veratria in Stocken's 'Dental Materia Medica.' Whether it was left out by accident or by intention is, of course, best known to the author; but, as far as my experience goes, *Materia Medica* suffers no loss whatever from such an omission so long as it contains aconitum and its alkaloid. Having fairly tested both remedies, this remark is no mere assertion.

For a long time, and with invariable success, I have prescribed for patients who have suffered from facial neuralgia either aconitum itself, in the form of the *Linimentum Aconiti* of the 'British Pharmacopœia,' or else aconitia, in the form of ointment (one grain to the drachm). Possessing such potent remedies, I felt disinclined for a long time to try anything else, till I read the eulogiums of Mr. Fletcher and others on veratria. About this period I happened to be the subject of an attack of severe facial neuralgia. I tried the ointment of veratria, prepared as recommended by Mr. Fletcher at p. 552 of your Journal for 1879. The result was as unsatisfactory as anything could be. I experienced a peculiar sensation, different from that of aconite or aconitia, and not so lasting, but the hoped-for relief came not. After waiting some time I had recourse to the *Linimentum Aconiti* of the 'British Pharmacopœia,' which rapidly relieved me from all pain. Since then I have tried veratria in three other cases, but as the effect was equally disappointing as in my own, I have discontinued its use altogether.

Aconite and aconitia as topical applications in one of the most painful complaints that "flesh is heir to" are no ephemeral remedies; they have stood the test of nearly half a century, and we have the testimony of the great names of Skey, Watson, Pereira, and many others in their favour. However quackish it may appear to treat an effect instead of the cause, I maintain, if we can only allay pain, it is our duty to do so without a moment's delay, the cause, if we can detect it, we may endeavour to remove afterwards.

I may add that in my own case I had no return of pain after the first application of the liniment of aconite, which was rubbed in for five or six minutes on lint. I afterwards took a mild alterative aperient, followed up by three-grain

doses of quinine for three days; but whether I should have had a return of the complaint had I not used these preventive means I must leave undecided.

P.S.—In considering the totally different results of the effects of veratria as a topical application in the treatment of facial neuralgia, a question may arise as to the purity of the alkaloid itself. As that I employed was obtained from one of the first houses in London, and, further, as it produced the usual peculiar tingling sensation, I have no reason to doubt its purity. But I find the opinion of Dr. Pereira almost entirely coincides with my own. He says, "According to my own experience, it fails to give relief in a large majority of cases. . . . As a remedy for neuralgia it is, however, far inferior to aconitum and its alkaloid, aconitia."

38, High Street, Manchester.

EPILEPSY CAUSED BY DISEASED TEETH.

By J. F. KEKWICK, L.D.S.I.

HAVING read the report of Dr. Brunton's excellent paper on "Nervous Diseases connected with the Teeth," and the discussion that followed, I venture to think that the following decided case of epilepsy caused by diseased teeth, which came to my personal knowledge so recently as Saturday, the 17th ult., may be of interest to some of your readers.

A woman, between 40 and 50 years of age, came to me to have the right second molar extracted, which I did. She recalled to my memory the circumstance of my having extracted the corresponding tooth on the opposite side six months previously, and told me that, up to that time, for two years she had been subject to fits, having six or seven in a week and so severe, that (using her own words) she was sometimes as "unconscious as death for four hours." Two or three days after the tooth was taken out she had one fit, but has been perfectly free from them since, although six months have elapsed. Her medical attendant cautioned her not to have the tooth extracted. She came to me contrary to his injunctions, the tooth was removed, and the fits quite ceased.

ON AFFECTIONS OF THE EAR ARISING FROM DISEASES
OF THE TEETH.

By SAMUEL SEXTON, M.D.,
Surgeon to the New York Ear Dispensary and to the New York
Eye and Ear Infirmary.

(From the 'American Journal of the Medical Sciences.')

(Concluded from page 363.)

GOLD, platinum, and vulcanite, are the principal substances used in the construction of plates; of the latter more will be said further on. Silver and celluloid are also sometimes used. Gold is never employed pure, but is alloyed with silver or copper down to 18 or 20 carats of fineness. Gold plates decompose slowly in the mouth, but some old plates, when washed with saliva, readily yield traces of copper. Silver is liable to be attacked by the acids of the saliva or food, and is not, therefore, a desirable metal for plates. Platinum, on the contrary, is least liable, of all the metals used for this purpose, to be affected by chemical agents; where great flexibility is required it is hardened by the addition of iridium. In all kinds of plates the mineral teeth are fastened by means of platinum pins.

It should be noted that in all the plates (excepting perhaps those of platinum) more than one kind of metal is used in their construction, an arrangement which may admit of chemical action taking place; and when a gold plate touches amalgam fillings the latter seem to wear away more rapidly. The same result has been observed when amalgam and gold fillings touch; metallic plates are often thus found in contact with fillings. What the effect of these metals, constantly worn in the mouth, may be on the health of the individual cannot at present be stated with certainty, but the well-known fact that when two different metals are brought into contact in presence of a dilute acid or solution of a salt, a current of electricity is generated, should lead us to infer that their harmlessness to either sick or well is problematical. The questions respecting the action of metals on the body in health and disease—metalloscopy and metallotherapy—were prominently brought forward by Dr. Burg thirty years ago, and Charcot and others have recently completed an investigation on the subject, a report of which has just been issued. From the existing knowledge on this subject we cannot, however, derive any assistance, and a further consideration of it would lead me too far.

Vulcanite plates, however, produce diseases which are more frequently the source of reflex aural disease than any of the others. They have been in use for over twenty years and their adoption is very general. The constituents of this material are caoutchouc, the sulphur required in the vulcanizing process, and vermilion (sulphide of mercury) used for colouring. The quantity of the latter ingredient is believed to be equal in weight to both the other substances mentioned, but accurate knowledge is withheld by the manufacturers. These substances combined form a plastic mass, which is found in commerce as thin sheets suitable for moulding into plates for the vulcanising process. This plastic substance when chewed for several hours is so much broken up that it parts with the vermilion, and Dr. Stratford found that when the saliva of persons thus chewing it was treated with suitable reagents, it yielded a salt of mercury.

Two instances have come to my knowledge where the employés in a Dentist's laboratory acquired the habit of chewing this soft preparation. They were about eighteen years of age. One of them, who had been addicted to this habit for nearly a year, had an eruption on the inside of his arms, which remained while he continued this practice; the eruption was red and scaly, and the itching was excessive. The other youth only continued the practice for three weeks, but during this period he was rarely without a large piece of the coloured rubber in his mouth. In a week's time after commencing he experienced itching on the inner aspect of the arms, and during the second week an eruption appeared similar to that of the patient above mentioned; the rash extended to the face and legs, and the itching was most intolerable, especially at night. During this time he fell ill, and his lips were sore. At the end of the third week he abandoned the habit, and the cutaneous eruption gradually disappeared. Neither of these persons voluntarily swallowed the saliva, which was very copious during the chewing, as it had a "sickish taste." The sputa became coloured by the vermilion after several hours of active chewing. The history of these cases is not complete, for I only saw the eruption on the arms of the youth last mentioned. I presume, however, that it was the affection described by authors under the name of *eczema mercuriale*.

To bake this soft material into plates of sufficient hardness to support artificial teeth, a temperature of about 160° Cent. is required. This amount of heat is not sufficient to completely volatilise the combined vermilion and sulphur. Vulcanite plates are porous, and when the process of baking is imperfect, as is frequently the case, their colour is brighter

and they are less dense; they, therefore, when used, more readily part with the vermilion and sulphur which they contain. In the process of finishing these plates the fine filings become packed into the pores, ready to be gradually given up as the plate is worn. The acids which are sometimes found in the mouth do not materially affect vulcanite plates, but when subjected to the action of the saliva, which is ordinarily alkaline, it is believed that they are liable to become softened, and therefore more easily broken down. The gradual disintegration of these plates, as they are worn in the mouth, liberates a salt of mercury, whose poisonous effects are well known.

Until physiological science has more accurately determined the effects of small quantities of mercury and sulphur when taken into the system by absorption, and until we are able to estimate how much of these drugs is given off when the plates are constantly retained in the mouth, no reliable estimate can be formed of the effects of wearing them. In judging of the action of powerful agents like the salts of mercury the action of minute quantities of other drugs may serve us as a guide. Thus, Dr. E. G. Loring states that he has dilated his own pupil for twelve hours with the 460,000th of a grain of atropia; I myself have tasted the bitter of a 20,000th of a grain of picric acid. Arguments, however, are scarcely required to prove the undesirability of taking mercury into the system when not intentionally administered under competent advice.

Vulcanite plates, besides yielding a poison, are otherwise injurious to health. Inquiries from Dentists elicit the fact that at least one third of all those who attempt to wear them experience great irritation of the mouth, an irritation which is frequently accompanied by hypersecretion of the buccal fluid. The sufferer then usually lays aside the plate until informed of the necessity of becoming accustomed to its presence by uninterrupted use. Vulcanite is a non-conductor of heat, and the effect of its contact with the highly sensitive tissues of the mouth is to produce hyperæmia and inflammation. Another source of injury is the very close contact of these plates, which is maintained by atmospheric pressure, and may favour the absorption of the parts to which they are adapted. In such cases the hard palate, on account of the larger surface it exposes to the action of the plate, suffers most, but the gums, and even the lingual and buccal surfaces, seldom escape.

The hyperæmia which a continuance of the thermic and irritant action produces on the hard palate is frequently very marked. The parts are often found bathed with pus,

especially the granular development, which, under these circumstances, is found in the "air chamber" of the plate. In some instances these granulations are polypous in their nature. Lower plates are, in some respects, less irritating, because they are not so large nor so closely fitted; but, on the other hand, from being more constantly exposed to the action of the saliva in the bed of the mouth, they are liable to earlier softening and disintegration.

The practical results of wearing vulcanite in the mouth are frequently seen. I have notes of the case of a gentleman, aged sixty-four, who wore a full upper set, day and night, for a period of ten years. He suffered during this time from constant irritation, and the heat of his mouth required that the plate should be frequently removed and the mouth cooled with water. Constantly increasing irritation finally seemed to be the cause of a carcinomatous growth, and after an operation for its removal he died.

A medical friend of the writer has communicated a case that further elucidates the effects of these plates. He was consulted by a lady, aged thirty-one, whose principal complaint was of burning sensations in her mouth and throat. She had for six years worn a small vulcanite upper plate sustaining two teeth, but for about three months previous to her visit she had worn a larger plate, which seemed greatly to increase her difficulty. The lower molars and bicuspsids, which were previously sound, were becoming loose from denudation of the fangs and caries of the necks. The secretion of saliva was so excessive that the pillow upon which she lay at night was by morning saturated. She had been advised by her Dentist to wear the plate day and night, and thus get used to it. Examination of the mouth of this patient showed the gums, tongue, hard palate, and whole buccal mucous membrane, as well as the throat, to be swollen and hyperæmic. The eyes suffered sympathetically, and she was generally nervous and depressed. This condition was not improved by any treatment until a small gold plate was substituted for the vulcanite; she then made a complete recovery.

Another case coming under my own observation has a particular interest in this connection. The case was that of a gentleman, fifty-five years of age, whom I was called to see in consultation with Dr. C. J. Dumond. He had long worn a full set of artificial teeth mounted on vulcanite plates. His health had been for many years much shattered from some cause. For about a week before I saw him he had worn a new set of upper and lower vulcanite plates. These were of a bright brick-dust colour, and therefore it is pro-

bable that they were imperfectly baked. The lower plate rested in part on a portion of gum made sensitive by the recent removal of two teeth from the left side of the jaw. After wearing the new plates for about a week he was suddenly taken ill. The symptoms were nausea, soon followed by vomiting and purging, and the stomach was painful to the touch; the symptoms increased in severity from day to day, until he called in his family physician; he had not done so earlier on account of his absence from town. The doctor, on making an examination of the case, suspected that some toxic agent was at work, and when inspecting the patient's mouth discovered the vulcanite plates to which allusion has been made. When I saw the patient with Dr. Dumond the more acute symptoms had passed away, and he only complained of prostration. The mouth, which had been sensitive and feverish, was better; the tongue was, however, still somewhat swollen and heavily furred on the left side. The patient made a rather slow recovery from this attack, and suffered for some weeks from a cutaneous eruption over most of his body. He has not since worn the vulcanite plates.

The interesting feature of one-sided coating of the tongue in connection with irritation of gums or teeth on the same side has been reported by Hilton ('Rest and Pain') and by him attributed to sympathetic irritation through the nerves, the Gasserian ganglion being thought to be concerned.

Celluloid has been brought forward as a substitute for vulcanite in the construction of plates, but it has not been adopted to any extent. An objection to this substance would be its non-conductivity.

Regarding plates in general, it may be said that if badly fitted they are liable to do harm if any teeth remain in the mouth by pressing the gums against the natural teeth; this pressure excites hyperæmia of the gum, and it is therefore probable that a constantly shifting plate always does some injury.

That all the morbid conditions of the mouth which have been herein described may exist without serious or recognisable aural affection being developed cannot be denied, but progressive diseases of the ears, often without the occurrence of pain, is, in my experience, more common where these aural affections are present than when the mouth and throat are in a healthy state. In many of the aural diseases that depend for their origin on reflex nervous action there is one pretty uniform symptom which comes on after irreparable injury has been done to the conductive apparatus; that symptom is tinnitus aurium. In accumulation of cerumen, &c., in the external meatus, even when enormous, the

patient is usually unaware of their presence until, from some accident, such as bathing, they become impacted against the drum-head; then the unbearable tinnitus and pain require attention.

In conclusion, the writer would earnestly draw attention to the importance of a more general knowledge of orology being acquired by the profession. Frequent attacks of toothache should not be unheeded in any case, as the nervous irritation from this source not only sets up local inflammation that often leads to periostitis or abscess, but even more important lesions in distant parts may follow. An oroscopic examination should be made whenever occasion seems to require it, in order that, if necessary, the patient may be sent to a competent Dentist to have such mechanical assistance as the case may demand. No practitioner, moreover, can be too well informed on the known or probable effects of the introduction of metals, &c., into the mouth to be constantly worn, as he may thereby prevent the mouth being made the receptacle for substances that sooner or later exert a deleterious influence, for the number of persons who at the present time are thus wearing substances either known to be poisonous, or whose action yet remains in doubt, is very large.

The early decay of the permanent teeth, especially of the first or six-year-old molar, which parents, or others interested, are likely to neglect from inadvertently regarding it as belonging to the temporary set, and therefore destined to be lost, is important to be kept in mind, for from this source springs much of the earache of childhood. The delay in the cutting of the third molars or wisdom teeth is another cause of reflex phenomena induced by the teeth, which it is most important not to overlook.

Allusion has been made to the exceedingly small particles of poisonous drugs gradually worn away from plates and fillings, and to the almost inappreciable reflex irritation from slowly acting pathological processes set in motion by the teeth; these, it may be said, are the more dangerous when their existence is not suspected. Such plates as are mentioned above, the writer has seen abraded by use until worn through.

It is believed that, after a candid review of this subject, it will not be denied that affections of the ear are not unfrequently induced by pre-existing pathological changes in or about the mouth. It naturally follows that judicious treatment necessitates a careful appreciation of these etiological factors. It is not, however, in the province of this essay to discuss the treatment of oral diseases, and as to the management of

the ear itself, when affected by reflex influences, the subject is too important for the limits to which the unexpected length of this paper warns the author that it must be confined. He will, therefore, defer the subject of treatment until another occasion.

In the foregoing paper it has been the author's aim to touch on the more common of the oral affections that exert an influence on diseases of the ear, knowing that any account of the pathology of the buccal cavity and its contents approaching completeness would carry him beyond the scope of this essay.

Regarding the influence known as reflex action, by means of which we are enabled to account for pathological changes in the ear which were hitherto veiled in mystery, it must be said that our knowledge of its phenomena is as yet lacking in completeness, but enough is known, through the confirmation of clinical experience, to vastly increase our knowledge of the etiology of disease.

The writer feels that this important subject has been treated by him somewhat imperfectly, but as fully as his experience thus far warrants. The important practical bearings of the matter herein discussed must be his excuse for bringing it at this time under the notice of the profession.

Chemical Department.

THE COMPOSITION OF TONGA: A REPUTED REMEDY FOR NEURALGIA.*

By A. W. GERRARD, F.O.S.

A PAPER was published in the 'Lancet' of March the 6th of this year, by Professors Sydney Ringer and William Murrell, giving details of the use of tonga in eight cases of neuralgia, six of which were promptly cured, one was much improved, and in the other a week's trial of the remedy failed. The drug was brought to Professor Ringer by a gentleman residing in Fiji, named Mr. Ryder, with the following account: "It has been used several years by the aborigines of the Fiji Islands, and a European, who married a chief's daughter,

* Read at an Evening Meeting of the Pharmaceutical Society, April 21 1890.

learnt the secret from his father-in-law, in whose family the knowledge of the composition of this remedy had been an heirloom for upwards of two hundred years." Mr. Ryder described the drug as a mixture, and knew nothing of its botany, and the name tonga, I am informed, was invented by himself, the drug previously bearing the name "Neuralgia Medicine."

Tonga, as first placed in my hands, consisted of small loose bundles about the size of a small Florence flask, containing in the interior a mixture of bark, leaf and woody fibre; the outer covering or wrapper consisted of the inner bark of the cocoa-nut tree; the following instructions were given for its use:

"The bundle, without being unfastened, to be steeped in half a tumbler of cold water for ten minutes; then squeeze the liquid from the bundle back again into the tumbler, and take a claret-glass of the infusion three times a day about half-an-hour before each meal; dry the bundle and hang it up in a dry place to prevent its getting mouldy; it will answer for twelve months. Hot drinks and exposure to cold winds should be avoided whilst taking the medicine."

Mr. Ryder and his friends have tried the remedy extensively, and found it very successful, curing by the second or third day. It has also been used in Sydney with much success.

A supply of about eight pounds of the drug was placed in my hands by Professor Ringer; it had been removed from its envelope of cocoa-nut tree fibre. The drug, upon separation into its various parts, was found to consist of about an eighth per cent. leaf, two per cent. fibre, and the remainder portion bark. These proportions are not constant, on account of the rough mode of preparation.* The leaf is cut or broken into small pieces which precludes a description of its form; its colour is deep green; taste slightly bitter and astringent. The fibrous portion is of loose structure chopped into irregular lengths, varying from one half to two inches, and torn into shreds. No bark is attached, and there is nothing I can find in its structure to indicate with certainty whether it is root or stem. Its colour is dull greyish-brown, odour peculiar, and may be termed urinous, and taste of the same kind. The bark is found in irregular-sized pieces, much broken and partly in course powder, the majority of pieces consisting of inner bark rarely beyond a line in thickness;

* Since writing the above, Messrs. Allen and Hanbury have kindly placed at my disposal further samples of tonga, one of which is without leaf, and in which the fibrous portion consists of compact transverse sections broken longitudinally—additional evidence of its want of uniformity.

its colour is not uniform, but varies from pale brown to purplish-black ; many pieces are brownish-yellow, due, I think, to undetached portions of outer bark ; its taste is slightly sweet and astringent.

Examination of Bark.—Sixty grammes of bark in fine powder was divided into six parts, and treated respectively to exhaustion with hot benzole, benzine, ether, chloroform, alcohol, and water ; the resulting solutions were allowed to spontaneously evaporate, except those of alcohol and water, which were evaporated over a water-bath. The benzole, ether, and chloroform gave no residues worthy of examination ; benzine gave a slight residue, consisting of an essential oil, and a pale, fat-like substance. The amount being small, they were not further examined.

Alcohol yielded an extract of pale brown colour, sweet and slightly astringent taste, and mostly soluble in water. The filtered watery solution of this extract, when tested for alkaloid, gave negative results, but readily reduced when warmed the alkaline cupric tartrate. The bulk of this alcoholic extract was dissolved in water, and treated to excess with basic lead acetate, filtered and excess of lead removed with H_2S , filtered from lead sulphide and evaporated, when a pale yellow tenacious residue was obtained, which by its chemical reactions I identified as glucose.

The watery extract of the bark was examined, and during evaporation became pectinous. A portion treated with alkaloidal reagents gave negative results, but, like the alcoholic extract, readily reduced alkaline cupric tartrate ; and further examination proved that, excepting the pectin, the watery extract does not differ essentially from that prepared by alcohol.

Examination of Fibre.—The fibre portion of tonga being, unfortunately, very small in quantity, I have been obliged to limit myself to work upon ten grammes. Five grammes were exhausted with water, and the infusion, upon concentration and addition of the necessary reagents, gave strong evidence of the presence of an alkaloid. The semi-fluid aqueous extract, now treated with excess of alcohol, almost entirely passed into solution and, upon evaporation of the alcohol was deposited as a brown crystalline residue of a deliquescent character ; the crystals, upon examination, proved to be mainly chloride of potassium commingled with an alkaloid salt. The potash salt was removed by treatment with tartaric acid and alcohol, and the filtered alcoholic solution when evaporated left a pasty crystalline mass of an alkaloid salt, having the following reactions :—Moderately strong solutions gave white precipitates with potash, soda,

and ammonia, hydrates and carbonates, also with mercuric chloride, tannic acid, potash, mercuric iodide, phosphomolybdate of soda, and nitric acid; with potash bismuth iodide it gave a red precipitate; strong sulphuric acid changed it brown, evolving an odour of hawthorn flowers. When the solution is treated with caustic alkalies, the alkaloid is evolved, bluing red litmus paper; the odour of the vapour is peculiar, and suggestive of decomposed potatoes. The vapour passed into dilute nitric acid gave a solution having the above alkaloid reactions. The remaining five grammes of fibre were worked out with alcohol, and yielded results parallel to the above.

The leafy portion of tonga being only a fractional percentage and its separation tedious, I do not consider it worthy of examination, neither do I think it takes any part in the action of the drug.

To summarize: the preceding results show that the drug called tonga is composed mainly of a mixture of fibrous material, probably a root, and the inner bark of plants, the botanical sources of which are unknown; the main constituents of the bark being pectin, glucose, a little essential oil, and fat; the fibre containing a volatile alkaloid, which is probably the active principle, and may for the present be named tongine, also some chloride of potassium.

I trust we may soon command botanical specimens and larger supplies of this interesting drug, and be able to substantiate the reputation it bears, and prove it a valuable addition to our materia medica.

Mr. HOLMES said that he had little to add to the observations he made at the last Evening Meeting, viz. that he believed that the so-called root was the stem of a species of *Rhaphidophora*, probably *Rhaphidophora vitiensis*, Seem. He had placed on the table microscopical slides, both of that plant and of tonga, for comparison. With regard to the bark found in tonga, he believed that it would be found to belong, in all probability, to a tree of the natural order Sapotaceæ, several plants of that group having a bark of a singularly sweet and slightly astringent taste, e.g. monesia bark. He believed Mr. Greenish had examined the bark under the microscope, and might be able to give some information on the point.

Mr. JACKSON said all he had seen of this drug hitherto was a small quantity, about half a teaspoonful, which was submitted for examination at Kew, some time back, but there was not sufficient to determine the botanical structure of any portion. There was no leaf at all, and only a small portion of wood or root; he could not really say which. He was

much interested in seeing these specimens wrapped up in the sheathing bark of the leaf stalks of the cocoa nut.

Mr. GREENISH said that he, like many others, had been much interested in this tonga, which he found was a very expensive article. He sent to Mr. Tanner and asked him to be good enough to send him some typical specimens for examination. Three specimens were sent, viz. the bark, the root, and the leaf. In the bark there were very dark and light portions. He had made sections of the dark part and found that it consisted not of the primary, but the secondary layer. The cortical portion seemed to have been removed. The whiter portions were evidently the inside portions of the same bark—what might be termed the tertiary layer. The secondary dark rind had the stone cells very prominent, and the inside portion had the bast cells which belonged to the tertiary layer. There was no doubt that these two portions belonged to each other, and to a dicotyledonous plant. That which was called the root had a large amount of fibrous material, but it was evidently from a monocotyledonous plant and had nothing whatever to do with the bark. The leaf again was that of a dicotyledonous plant, and might possibly belong to the bark; he could not say. But really, when the root of a monocotyledon and the leaf of a dicotyledon were found mixed together in that sort of bag, and varying very much in their relative proportion, it required a large amount of faith to believe in the value of such a remedy for neuralgia. Mr. Holmes had mentioned an arum as the probable source of the root, and he believed Mr. Holmes was guided to some extent by the starch, but he had examined the starch grains, and compared them with those of the arum, and they certainly differed very considerably. He could not say what starch it was, but it was very much smaller, and of a different form.

Mr. HOLMES said he had placed a specimen of raphidophora under the microscope and the starch seemed to him as nearly as possible of the same size and character as that of the tonga. He was quite willing to admit that the starch of *Arum maculatum* was much larger and possibly different in shape, but he knew of no other starch which the tonga starch approached so nearly in character. If the bark belonged to a plant of the order of Sapotaceæ, as he supposed, the leaf could not belong to the same plant, because plants of that order had usually thick leaves, very different in character to those mixed with the tonga.

A vote of thanks was passed to Mr. Gerrard.—*Pharm. Journ.*

Hospital Reports and Case-Book.

THREE CASES OF TUMOUR OF THE ANTRUM OF HIGHMORE.

(Under the care of Mr. CHRISTOPHER HEATH, University College Hospital.)

WE are indebted to Mr. Silcock, surgical registrar, for the following interesting notes :

CASE 1. *Collection of inspissated pus in the antrum simulating a morbid growth.*—A. E—, aged forty-three, housewife, was admitted on June 3rd, complaining of pain and swelling of the left side of the face. There was an ill-defined swelling over the region of the left upper jaw, and the angle of the mouth on that side was drawn downwards. The swelling was both hard and tender; the skin over it appeared unaffected. In the mouth there was a tense, elastic, and tender swelling over the left half of the hard palate, displacing the alveolar process downwards. Slight discharge oozed from a small opening in the mucous membrane opposite the last upper molar tooth, the swelling being softer about this spot than elsewhere. The left nostril was blocked, its external wall being pushed inwards, and the patient complained of some discharge from it. The neighbouring lymphatic glands were not enlarged, and with the exception of occasional pain in the tumour, the patient suffered no inconvenience, her general health being excellent.

She had noticed the swelling for about two years, and its commencement was attributed to exposure to cold. At times the swelling increased, and became more troublesome, especially after prolonged overwork. No history of syphilis could be obtained, and her family history was good.

On June 5th Mr. Heath made an incision through the upper lip in the median line, prolonging it into the nostril of the affected side. The alveolus and hard palate having been divided with saw and bone forceps, a way was made into the latter, and a pultaceous offensive mass, about the size of a hen's egg, was turned out with the finger. On microscopical examination this was found to consist of fatty debris, granular pus cells, and acicular crystals. As the larger portion of the left half of the hard palate was partially loosened and absorbed it was removed with the forceps. The cavity of the wound was stuffed with a strip

of lint to prevent any hæmorrhage, and the edges of the incision in the upper lip brought together by harelip-pin suture.

The patient made an uninterrupted recovery, and was discharged from the hospital on June 22nd.

CASE 2. *Soft fibroma of antrum.*—J. P—, aged twenty, domestic servant, was admitted on July 1st, 1878. She stated that she first noticed a swelling of the right side of the face in 1874. The swelling never entirely subsided, and gave her more or less pain. In 1877 a swelling appeared in the roof of the mouth, accompanied by copious and offensive discharge. At this time the patient suffered from tooth-aches, referred to the right upper molar teeth, which were consequently extracted. Relief was thus obtained for a month or so, but the tumour gradually increased in size, and at the time of admission the pain had become much more severe, and was almost constant. There was likewise a uniform swelling of the right side of face, the malar bone and adjacent parts of the superior maxilla feeling fuller than the corresponding parts of the left side. In the mouth the growth involved the right upper alveolar process, the second molar being in the centre of the swelling, and quite loose; its inner margin corresponded with the inner edge of the alveolar process; externally it merged into the swelling of the antrum, and was here soft, elastic, and irregular. On examination with the finger, the posterior nares were found to be free; there was no discharge from either nostril, nor any evidence of implication of the right orbit, or of the neighbouring lymphatic glands. The heart was slightly hypertrophied, and a presystolic murmur was audible, but other organs apparently healthy. Her general health was fair.

On July 3rd an incision was made into the antrum from beneath the lip, and a mass of new growth was turned out with the finger; but a rapid recurrence having taken place, the whole of the upper jaw was removed on July 17th. The bleeding occurring during the operation was arrested, partly by ligature, and partly by Paquelin's thermo-cautery. The edges of the incisions (one through the upper lip into the right nostril, another begun near the inner angle of the orbit, and carried down by the side of the nose around the ala, so meeting the first) were brought together with harelip-pin and silk sutures, and painted over with collodion.

Examination of the parts removed showed that the growth was limited to the antrum, and had been completely extirpated. It was of a pale yellow colour, and almost gelatinous in consistency. Microscopically it consisted of wavy inter-

lacing bands of fibrous tissue, in the midst of which a few spindle-shaped and round cells were visible.

With the exception of slight hæmorrhage from the cavity of the wound on July 25th, the patient made an unretarded recovery, and was discharged from the hospital on August 21st.

She was seen on October 25th, appearing in excellent health; beyond a little sinking in of the right cheek scarcely any trace of the operation was visible.

She was again seen in May last, and with the exception of some inconvenience arising from badly-fitting artificial teeth and palate, was free from pain, and in good health.

CASE 3. *Epithelioma of the antrum; pneumonia; death.*
—R. M.—, aged fifty-nine, a shoemaker, was admitted on May 30th, 1879. At the beginning of the previous month he had noticed that his right nostril was obstructed; a week or two afterwards the lower lid of the right eye became inflamed, and a swelling which commenced here rapidly extended over the right cheek. About this time a painful swelling of the hard palate appeared, and the patient consulted a Dentist, who extracted a tooth. Shortly afterwards he applied at the hospital. His brother was stated to have died of cancer of the kidney. The other members of his family were, so far as he knew, healthy.

He was a pale but well-nourished and well-preserved man for his age, though he had, he stated, lost flesh latterly. Temperature varied from 99° to 100° F. He complained of a feeling of stuffiness in his jaw, but of no pain.

The skin of the right side of the face was reddened, cedematous, and tender, and the cheek was projected outwards by the tumour beneath it. The right eyelids were closed and cedematous, but could be opened slightly, displaying chemosis of the conjunctiva, a clear cornea, and a somewhat sluggish iris. The right nostril was obstructed, and there was a purulent discharge from it; the nasal duct on the right side also appeared to be obstructed, giving rise to overflow of tears. To the touch the tumour gave the idea of a soft solid rather than of fluid. Most of the right half of the hard palate was absorbed, a soft elastic swelling occupying the roof of the mouth, the mucous membrane of the latter being congested and swollen. The teeth of the upper jaw were carious or absent, but the alveolar process was neither displaced nor softened. Owing to the resistance of the patient, an examination of the posterior nares could not be made. The lymphatic glands in the posterior triangle of the neck were enlarged, but free from tenderness. The mouth could not be opened to its full extent, and speech

was slightly affected. The tongue was broad, pale, and marked by the teeth.

On the 31st a fine trocar with canula was inserted into the swelling on the roof of the mouth, and a few drops of stinking pus evacuated. The opening made by the trocar was subsequently enlarged, and a drainage-tube was passed into the antrum.

It soon became evident that the growth was malignant, and as the man's condition became worse daily, removal of the upper jaw offered the only chance of prolonging his life. This was accordingly done on June 4th. The floor of the orbit was taken away, but it was impracticable to wholly extirpate the growth in this direction, as the orbital structures were infiltrated. The somewhat free bleeding was restrained by the actual cautery, and the cavity of the wound was stuffed with strips of lint soaked in a strong solution of chloride of zinc.

The growth appeared to have commenced in the antrum, the walls of the latter being partially absorbed, the anterior almost wholly, thereby allowing invasion of the orbit, the mouth, and the pharynx. Several pieces of dead bone, surrounded by offensive pus and débris of broken-down growth, were found in its cavity, thus accounting for the inflammatory condition of the superjacent skin, and the purulent discharge from the mouth and nostrils. In other parts the growth was of a yellowish colour, translucent, gelatinous, and vascular. Several ordinary soft gelatinous polypi were extracted from the right nostril during the operation.

In sections taken from the margin of the growth near the gum, the microscope showed cylinders of epithelium cells, irregular in form and sinuous in outline, sometimes anastomosing, set in a stroma made up of fibrous tissue and spindle-shaped cells. Epithelium "nests" were observed here and there, but these were few, small, and ill-developed. The papillæ of the mucous membrane covering the gum, where the latter was infiltrated, were hypertrophied. The histological characters of the growth appeared to correspond with those of the "*épithéliôme tubulé*" of Cornil and Ranvier.

On June 13th pneumonia was present at the base of the right lung, and on the following day friction sounds were audible over the affected area. The edges of the skin wound had united, except at the inner angle of the orbit.

On the 16th there were dulness, extremely weak breath sounds, diminished vocal fremitus, and resonance to the angle of the right scapula, with bronchial respiration above.

The lymphatic glands, which had become larger and very tender in the right posterior triangle, had diminished in size after treatment with belladonna and poulticing.

On the 18th, the physical signs of pneumonia at the left base became evident, and the general condition of the patient worse, though he wanted to "be up and about." The fætor from the cavity of the wound was now almost intolerable, and one or two sloughs had separated.

From this time the chest symptoms increased in severity, and he died on June 26th.

Necropsy (by Mr. BARKER) *twenty-five hours after death.*—Rigor mortis well marked. Body well nourished. The serum in the pericardium was normal in amount and characters. The heart was somewhat enlarged, and rigor mortis was well marked; a good deal of fat was noticed, chiefly on the anterior surface. The superficial veins were somewhat loaded. The right auricle contained firm post-mortem clot. The right ventricle was also engorged with clot, part of this having evidently formed during several hours before death. The left ventricle was firmly contracted, and contained a small quantity of tough coagulum. The cardiac valves were healthy. The left lung was extremely emphysematous anteriorly, and posteriorly it was covered with recent lymph, hardly adherent. There were six ounces of serum in the left pleural cavity. The inferior lobe was considerably congested, and some small portions were collapsed. Section showed general congestion and grey hepatisation and softening at numerous points, but the lung was not gangrenous. The bronchi were intensely congested in patches down to the small ramifications, and full of dirty brown sero-mucous fluid. The right lung was adherent to a large extent of the ribs, particularly over the lower lobe, and by more recent lymph above. A large abscess opened on removing lower lobe from chest wall. This abscess, occupying a large portion of lower border of upper lobe, upper border of lower lobe, and extending deeply into the substance of the lung, was a ragged, ill-defined space, full of black, very fetid broken-down lung tissue, and was surrounded by blackened, sloughing, very soft lung tissue. The bronchi, as in the left lung, were intensely congested, increasingly so towards the finer ramifications, and full of foul sero-pus. The bronchial glands were much enlarged at root of both lungs. The tongue was covered with a thick covering of foul material, apparently dropping down from the roof of the mouth. There were enlarged papillæ at the base, the size of millet seeds, raised, pedunculated, and deeply pigmented. The œsophagus was normal. The mucous mem-

brane of the larynx and trachea was inflamed throughout. There was a quantity of grey mucus in the ventricles of the larynx. The anterior surface of hard and soft palate was covered with foul, tenacious pus. The operation cavity extended back beyond orbit to the pterygoid fossa and upwards sphenoid bone. The septum of the nose was carious, and giving way. The orbit and eyeball had not been particularly injured by the operation. The liver was apparently normal. There was no post-mortem staining in the great vessels, nor extravasation in the mucous membrane of the intestines.—*Lancet*.

British Journal of Dental Science.

LONDON, MAY 1, 1880.

THE General Election is over. A party which was largely supported by, and recruited from, the wealthy and literate classes, has suffered a crushing defeat, the more humiliating because most unexpected. It has been overthrown in the midst of its boasting and apparent security of power. What is the result? The rejected leaders accept the verdict of the majority with dignified silence, content to hope that hereafter, on calm reflection, the fickle populace will form a juster estimate of their services, and will not fail to award them such thanks as they may be found to have deserved. Whilst the archangel, or archdemon, as you will, who, but a short time since, was from the north thundering the fiercest denunciations against the deeds, words, and even thoughts of his opponents, is now willing to admit that these unfortunates were, after all, rather stupid than criminal, and that what he then affected to regard as the blackest of crimes, may now be fairly described as errors of judgment. In short, both sides are content to accept the inevitable, neither arrogantly extolling the victory nor whimpering miserably over the defeat.

How is it that, as members of our profession, we cannot act as we do in the character of members of the body politic? Many of us have taken an active part on one side or the other during the late crisis, and, whether successful or not, we have returned to our work satisfied with having done our best, and willing, if the fates have so ordained it, to give our political opponents a fair field for the display of their abilities. But how is it in the profession? Our General Election came off sixteen months ago. It was carried by no *coup de main*; it was preceded by plenty of discussion; every one had ample opportunities for expressing their opinions and offering their suggestions; and the result might have been considered fairly satisfactory. Yet from that day to this we have had constant recriminations, petitions, and threats of civil war. We appeal once more to all whom it may concern to wash off the blue and yellow posters, to be content, for a time at least, with the *status in quo*, and to give our present government, the Medical Council, credit for good intentions and time to carry them out.

It may be said that, having taken an active part in the contest we cannot be considered impartial, and that our advice must be received with suspicion. This, of course, we cannot altogether gainsay, but we nevertheless give the advice with all single-mindedness and sincerity. We have obtained, after much exertion, a considerable part of what we asked for. We do not say that we obtained all that we might reasonably have expected, but we certainly gained more than most people expected that we should. We believe that, as a matter of expediency, and even of sound policy, it would be wise to rest content for a time with our present laws and our present government. We shall thus, when a fair opportunity offers, be able to come forward with the assertion that we have fairly tried the measure of self-government which was dealt to us, and shall be able to substantiate the statement of our wants and grievances by an appeal to actual experience. By constant agitation and attempts at piecemeal legislation we shall only succeed in wearying our friends and bringing discredit upon our whole body.

Literary Notices and Selections.

THE LIST OF DENTAL LICENTIATES IN THE MEDICAL DIRECTORY.

WE have received since the beginning of the year many complaints respecting the conduct of the proprietors of the 'Medical Directory' in refusing to insert individual qualifications in their list of Dental licentiates. We may as well state at once that had it not been for our own advice and influence the Licentiates' List would have been omitted altogether. From the exceedingly small number of Dental practitioners whose names appear in the list of subscribers, the proprietors formed the opinion that we took but little interest in the publication, and that, therefore, compiling and printing the licentiates' list was a useless expense. The increasing bulk of the volume rendered some curtailment very desirable, and this was one of the points decided upon. We, however, succeeded in inducing the publishers to insert the list once more, though in an abbreviated form, with the expectation that when the attention of the profession had been thus attracted a decided expression of opinion would be called forth. In this we have not been disappointed, but it must not be forgotten that the 'Medical Directory' is solely a commercial speculation, and that the proprietors will be guided in their decision only by what they may be led to believe is their own interest. The surest way to secure the reinsertion of the list in full will be to fill up the subscription form for the next edition.

RINGER'S HANDBOOK OF THERAPEUTICS.

AN eighth edition of this useful work has just appeared. Once really a "handbook," it now consists of 670 pages of large 8vo, and has in all respects been carefully written up to date. In our profession it will be valuable rather as a book of reference for the busy practitioner than as a text-book for the student. The remedies which the Dental practitioner is constantly using are comparatively few, but he is occasionally called upon to use, or to prescribe, a much larger

number, and it is very convenient to be able to ascertain at any time the correct doses and best methods of administering such remedies as, for example, croton-chloral, gelsimium, or veratria. We may mention as instances of the completeness of the work, that the index contains no less than twenty-one references to remedies for diseases of the teeth, and thirty-seven for various forms of neuralgia.

DENTAL REFORM.

By OUR ENGLISH CORRESPONDENT

To the Missouri Dental Journal.

(Concluded from page 371.)

WILL a less number of Dentists prove a permanent benefit to those who are licensed to practise? This is assumed as an undoubted fact. But is it so certain? The number of Dentists is now five times what it was twenty years since, and at the same time there are more good practitioners. The reason is obvious; more attention is paid to the teeth, and this disposition increases under the influence of healthy progress in Dentistry. Will it increase under registration and its influence? We shall see. My own impression is that registration will in a pecuniary sense, for a time, benefit all the men whose practice consists in making false teeth—which is by far the greatest part of the ordinary Dentist's work—for the influx of small men will be entirely stopped. But in the long run it will have an effect not contemplated by the reformers. They never can get an Act of Parliament to prevent any man making, and getting his pay for, artificial teeth. The most they can hope for is already in the Act, which declares that none but a registered person shall be able to collect a fee for any Dental "operation." How this word operation is to be interpreted remains to be seen. If literally, it includes all sorts of Dental work. But as Dentistry is, by the Act, considered only as a part of surgery, it may be confined to a surgical operation, and not made to apply to artificial work. In any case the maker of false teeth has only to follow the custom, which is almost universal now among the inferior men, of requiring a substantial deposit when the impression is taken, and the whole of the money when the work is done. The result will be that people who "make and insert false teeth" will arise, and nothing can stop them. They will not call themselves Den-

tists and that is all. With a certain class they will be preferred to the registered man, under an impression that they are not monopolists and work cheaper. Hundreds of the chemist-dentists are such only in so far as they extract teeth. They got on to the register under an impression that it was necessary to protect this "vested right." It was quite a mistake, for they never extracted teeth as Dentists. The maker of false teeth may extract all the natural teeth he likes and be paid for it, and nothing can prevent him, unless he persists in calling himself a Dentist. Besides, among the inferior Dentists, it is almost universal to make no charge except for the purely mechanical work. The reformers have talked so loud and large, that men who have never read the Dentists Act have been frightened; but when its real character gets known, I have a strong conviction that it will signally fail in just what it was especially intended to accomplish; and that just as it has got two thousand men on the register as Dentists, who were not known as such before, it will be the means of creating a new order of men, who will be pernicious and powerful rivals as "makers of false teeth" for the million. This leads up to another matter the reformers have, with their usual inability to see the consequences of their doings, entirely overlooked. The source from which, to a very great extent, the Dentists have been recruited, has been the mechanical workman. Your "Harrys," "Bills," and "Toms," have been in the habit of putting on their doors, in the little back street where they live, "Mr. Blank, Dentist." In time they get a little money and launch out into a practice of their own. A large majority, and indeed some of our best Dentists, have originated in this manner. The very men who have got into the profession in this way are now, of course, anxious to shut the door against any further influx from the sources from which they sprung.

The intention is avowed to "keep the artificial workman in his place." But will he consider the place assigned his proper one, and will he stay where he is put? Certainly not. Manners are catching, especially bad manners, and the artificial workman who was respectful and contented because he saw a prospect of independence, will begin to look after his "vested interests." That means a trades-union; by means of which the employer is, after the manner of such organisations, told what he must pay for his work; how, when and where it shall be done, and whether he can have his work done at all if any part is executed by himself or his students; how many apprentices are to be taken by the workman, and so on. Non-compliance will end in a

strike. As all who have large practice are dependent on these men the prospect is not delightful. Besides, the necessities of a large practice will create the very class of men who will recruit the ranks of the "unqualified" Dentists—that is, men who are as much Dentists as four-fifths of those now in practice, independent of pharmacy, but who will not call themselves Dentists but "makers and inserters of artificial teeth." Moreover, they will advertise their excellence by stating that they were "late principal assistant to Mr. Blank," which informs the public that it can get Mr. Blank's work at very much less than Mr. Blank's prices. When the north wind blows on an exposed thermometer the mercury sinks, and no Act of Parliament can keep it up to summer heat. There are unalterable laws which determine the true status of Dentists and Dentistry, as well as the bulk of mercury, which no Act of Parliament can influence. A man and a profession is respected just in proportion as he, or it, contributes to the public good. The man gets fame, honour, and reward just as he is supposed to fulfil this condition, and a profession takes rank just as it accomplishes this end. Any other effect is contrary to the laws in such cases made and provided. So we see that the undoubted end of reform will be total failure in all that was really intended; and, moreover, it will introduce trouble and discord where there was before peace and harmony. There is another matter little considered by purely selfish minds. What we will to do is, to us alone, good or evil according to the motive which prompted it. If the motive intended only good to ourselves and no good to others, it does not follow that the result will be as we desire; on the contrary, moral philosophy distinctly teaches it can never be as we desire. It is ourselves alone that are made better or worse by our motives; and the acts we perform are, just as soon as they pass away from our control—which they almost instantly do—at once under the control of those influences which, from beginning to end, from the greatest to the least, are exerted in a manner to place everything in its proper position, so that it will do the minimum of harm and the maximum of good. This accounts for the well known fact that all schemes founded on selfishness crumble to pieces, and only the good live. It also accounts for another thing. All progress demands activity; and the moment activity, even although it was prompted by an evil motive, passes out from under the control and influence of that motive, and comes under the control of the universal laws which are always working for good, it promotes progress; although it may have originated in an influence that

would have smothered it, were there not something higher and better than the meanness which gave it birth. It is not in the nature of things that anything in which the aims are puerile, the agents blind, and the results vague and purposeless, can ever come to any good unless under these considerations. But Dental reform has done and will continue to do good, on the principle above indicated. The profession felt that something should be done. Certain men saw a chance to mount a needed movement and ride it as a hobby. If what they have done is not wise, it is the best they knew ; and it has stirred up activity where before was sloth. Their faults and follies will soon be apparent, and will pass away as the modest good sense of the profession, so far latent, is brought out ; and the day is not far distant when English Dentistry will rely on its merits and not on extraneous support. Englishmen may, as is sometimes charged, be obstinate and illogical ; and it is true that they hate to move out of settled grooves ; but once aroused, their unsurpassed energy, sound judgment that clearly indicates the issue, and their straightforward common sense that leads directly to the point, always puts their house in order with marvellous rapidity. If the reformers had their way the student would have to go through their schools to get his license, and somewhere else to learn how to practise Dentistry. But the Act of Parliament does not give them their way, although they manipulate it to effect their purpose in some things ; nor will any act ever meet their views. On the other hand, new schools will arise where Dentistry proper will be taught. In time the cohesion of the better elements of the profession will create a strength that will break the degrading bonds that have made us an humble appendage to a sister profession and given it the power to govern us, with nothing left but to suggest and remonstrate. And in time we shall take the position we have so well earned, as one—and by no manner of means the least honoured—of the learned professions. There has been, I am aware, a good deal of interest taken in America in the result of this movement ; and I think it is clearly shown, in what has been stated, that Dental reform does not contemplate the building of Dentistry on the same line that has led to such success in the United States ; and that, so far, the American Dentist will find in it nothing to imitate and everything to avoid.

A "SPEEDY METHOD" IN ASPHYXIA.

THE following "method," it is believed, will be found a highly valuable, if not the most important, addition to our list of appliances in the asphyxia of children, and also for the relief of that condition in the adult when properly manipulated. The procedure is easy of accomplishment, and requires no preliminary arrangement or preparation for its application, but may be put in execution the moment the condition of the child may demand it. It is as follows: Bring the ulnar sides of the hands near together, with the palmar surfaces looking vertically, and place them beneath the back of the infant, so that the extended thumbs may aid, as far as possible, in sustaining the vertex and inferior extremities; then, keeping the ulnar borders near together, so as to form a fulcrum, the radial borders or sides are simultaneously depressed to as great extent as practical—say forty-five degrees—below the horizontal line, and then gradually pronated or elevated to as many degrees above that line, thus facilitating the escape of air drawn into the lungs during the downward movement of the head and chest. Or the hands are placed as at first, and passed beneath the body of the child, on its back and the superior and inferior extremities furthest from the operator seized, one by each hand, near the trunk—the ulnar borders of the hands and wrists forming the fulcrum—the head of the child being kept at a proper axis with the movements of the chest by the hands of an assistant; and the depression and elevation of the head and lower extremities proceeded with as already described. These alternate depressions and elevations of the two extremities, performed in a regular and gentle manner, and repeated at proper intervals, seldom fail in establishing respiration where it is possible of accomplishment. The occasional dashing of cold water on the epigastrium during the descent of the head and chest will hasten respiration where the first few movements fail in its establishment. It is important that the head be kept, as far as practicable, from too much lateral movement, and not permitted to depart considerably from its antero-posterior axis with the vertebral column during the continuance of the process. To this end, in a critical case, the hands of an assistant may be brought into requisition. The importance of these remarks will be apparent to intelligent readers on a moment's reflection. No impediment should be permitted in the way of free entrance of air into the lungs during

the downward movement of the head ; and it is scarcely less important that no obstruction should oppose the escape of air during the upward movement of the head and chest. A nurse or other intelligent attendant can be made to understand the movements, so as to continue them should the condition of the mother demand the attention of the accoucheur. These movements will apply to the treatment of asphyxiated persons of any age, as has been practically demonstrated in several cases since the publication of my first article on the subject. Asphyxia from drowning has been promptly overcome in three instances since the question was asked in a former communication, on theoretical grounds, whether it would not act more promptly than any other method. It has been found that the "movements" are easily practised when the body is taken from the water and placed on its back across a barrel, a trunk of a fallen tree, or other substance. Two persons can thus depress and elevate the extremities as often as necessary to expand and exhaust the air in the lungs, as in normal respiration.—*Dr. Harvey L. Byrd, in the 'Baltimore Practitioner.'*

TOOTH-GRINDING AND GOUT.

THE connection between the habit of grinding the teeth, and the gouty diathesis was pointed out by Dr. Graves in the 'Dublin Medical Journal' as long ago as 1836, and explained by him as being due to an irritable condition of the dental nerves. The following account apparently illustrates this observation, and is in other particulars of some interest.

Eight children, the whole family of a father who has frequent attacks of acute and seemingly acquired gout, and of a mother whose grandmother and mother suffered severely from the same disease, grind their teeth almost incessantly at nights, and have done so all their lives. I am told by the mother that the conjoint noise made by several sleeping in one room is painfully audible outside the door. The eldest is twenty years old ; the youngest ten months. All the children have cut their teeth at an early age, having generally two, if not four, teeth at three months. In several of these cases, there is a notable degree of that wearing down of the teeth which was frequently observed by Graves. The mother who, as I have said, comes of gouty parentage,

though herself free, used to grind her teeth at night for many years. A further symptom that these children have in common with one another is the habit of sleep-walking and talking. The father was an habitual somnambulist as a young man, and still occasionally walks. Most of the children, I am told, are extremely nervous—"even painfully so." One, a youth aged eighteen, has suffered considerably from bleeding at the nose. This symptom has apparently not occurred in the other cases, but is worthy of note in this context, as Dr. Sutton has made the assertion, which is supported by Dr. Wilks in his exceedingly suggestive paper on *Temperaments* in the 'Guy's Hospital Reports' for 1868, that epistaxis and other forms of hæmorrhage are common in children of the gouty diathesis. I would mention, lastly, that I am informed by my colleague Mr. Cowell that the two eldest have had corneal ulcers, such as are common in strumous children, in both eyes. The ulceration appeared first about the age of twelve or thirteen. There is no otherwise strumous history or fact noticeable in this family.

Some at least of these facts seem worthy of being recorded, as probably illustrating the symptomatology of gout, and as likely, therefore, to be of some help, in the case of children, towards diagnosis and precautionary treatment.—HORATIO DONKIN, M.B. Oxon.—*Brit. Med. Journ.*

STATISTICS OF STAMMERING IN FRANCE.

M. CHERVIN, who has founded several institutions for the cure of stammering in European cities, and especially Paris, has published lately some statistics of this infirmity, and the conditions of its increase. A map of France indicating the degrees of prevalence of stammering shows two pretty distinct regions separated by a line from Bordeaux to Geneva. South of this line, stammering is much more frequent than north of it. Paris has only six stammering recruits in 10,000, whereas the Bouches-du-Rhone has more than 153. The ordinary frequency, however, is about five in 1000; at least at the recruiting age (for it seems to vary much with age). The peri-Mediterranean departments, then, are extraordinarily subject to stammering. M. Chervin also finds it frequent in Piedmont, which is under much the same climate and has a pretty similar population. He attributes this greater frequency in part to the extreme animation of

speech of the Southerners, accompanied by gesture, demonstrations, and expressive mimicry, which some push even to grimace. The words (like a crowd issuing from a theatre) come out in a jerking irregular way, and impatience adds to the embarrassment. M. Bertillon has suggested (*La Nature*) that the various nervous maladies common in the south as a result of hot winds may affect some children with disorders which produce stammering. The most common cause of stammering generally M. Chervin considers to be some sudden fright in childhood. A fire, a boat accident, or the like, will make a child a stammerer suddenly. The evil may, however, come gradually, and sometimes from involuntary imitation of stammering in another. Men are much more subject to stammering than women. All authors agree in this, reckoning only ten to twenty females in one hundred stammerers. Country parts contain twice or thrice as many stammerers as towns (according to recruiting data). With this may, perhaps, be connected the other fact brought to light by M. Chervin, and which is easily explained, viz. that countries containing most schools have fewest stammerers. By learning to know their own language, to distinguish, read, and write, the different words, children must come to apprehend and articulate these more distinctly and avoid stammering. In savage countries where grammar is an art wholly unknown, travellers have often been struck with the number of stammerers. M. Petitot mentions a tribe in North America—the Litchaureæ—of which all the members stammered more or less. To this frequency may probably be attributed the frequent repetition of the syllables in words of savages (as may be seen from any geographical map of Africa or America). M. Chervin shows that in France about one thousand youths are exempted annually from military service because of stammering; and he considers that the cure of the infirmity should receive more attention in normal schools.—*Brit. Med. Journ.*

DANGER OF ARSENIC IN DENTISTRY.

HAVING within a short time met with several cases of the bad effects produced by the injudicious application of arsenic to diseased teeth, I think I ought to bring the subject to the notice of the profession; the more so because I believe that the mischief produced by its agency is rarely traced to its proper

cause; also because, from the frequency with which in my own practice I have lately seen it, I think that it is an increasing evil, and one that is far more common than is usually supposed.

A lady applied to me a short while ago under the following circumstances. She had consulted a Dentist about filling a second upper molar tooth, decayed low down between it and the third molar. The Dentist drilled away the decay; but, finding the tooth sensitive, he dressed it with something to allay the pain, directing her to return in two days. She suffered intensely for twelve hours. On her return the second molar was filled; and subsequently the two bicuspid teeth (being similarly dressed) were in like manner treated and filled. Day after day, the pain continued with increasing intensity, and chloral had to be given to procure rest. After three weeks of this, when she came to me, she presented the appearance of a patient much exhausted by acute neuralgia. The third molar, which was otherwise sound, was so painful and inflamed that I had to extract it at once. The face was much swollen, the alveolus acutely inflamed, and an offensive discharge escaped from the wound. When, on probing the cavity, I felt dead bone, I at once made up my mind that arsenic was the cause of all this mischief. The Dentist who applied this solution had bought it (without knowing its ingredients) to destroy the nerves of teeth, and always used it for that purpose. On analysis it was found to contain almost nothing but arsenious acid. The result of this case was the loss of the three stopped and of one sound tooth, together with the whole of the alveolar wall surrounding them, two months' intense suffering, and all the necessary medical expenses, in addition to my fees and the cost of replacing the lost structures.

In a second case, an officer in India applied a mixture containing arsenic (given to him for the purpose by the army surgeon) between two upper molars, to relieve toothache. He suffered so acutely that he had to come home on sick-leave. He lost all the upper molar teeth and a large part of the maxillary bone.

In a third case, a week after I had taken out a lower tooth which was decayed below the alveolar margin, my patient returned with the usual symptoms of necrosis. Before consulting me, he had used a tooth-tincture, procured from a chemist, to relieve the pain. The result in his case remains uncertain. At present there is considerable constitutional disturbance.

So many cases occurring within the limited area of one man's practice in so short a space of time is suggestive of an

enormous amount of preventable misery. Arsenious acid should never be used without the greatest care to avoid its contact with the periosteal lining of the teeth; and patients should take care how they employ all so-called pain-killing tooth-tinctures, &c. It is a valuable agent when skilfully handled, but, if ignorantly or carelessly employed, arsenic may be a "destroying angel."—N. STEVENSON.—*Brit. Med. Jour.*

DEATHS FROM CHLOROFORM.

A MAN, aged 56, who had previously twice taken chloroform without evil results, was being anæsthetised with that agent by the house-surgeon at the South Infirmary, Cork, when he suddenly became livid, and it was found that the heart had ceased to beat. Artificial respiration was maintained for some time, and the usual restoratives administered, in vain. The coroner decided that an inquest was unnecessary.—*Brit. Med. Journ.*

A DEATH resulting from the administration of chloroform is reported from Southampton. From the evidence adduced at the inquest it appears that a gentleman, aged thirty-six, a resident of Lymington, went to Southampton, accompanied by his medical attendant, to undergo a Dental operation. Having been examined and pronounced a fit subject for the administration of chloroform, he was placed under its influence, and two teeth had been extracted when it was found that he had ceased to breathe. Artificial means to restore respiration were immediately resorted to, but all efforts proved fruitless. A verdict was returned by the jury absolving the medical man and Dentist from all blame.—*Med. Times and Gaz.*

HYSTERICAL TOOTHACHE.

Miss J—, a young lady, aged 19, came complaining of toothache in the second lower molar on the right side. On examination, it was found to be very much decayed; and, as it was very sensitive to pressure, showing some inflammation of the peri-odontal membrane, and as there was not room for the dens sapientiæ, it was extracted under

nitrous oxide gas ; and the patient was told to come again to have some teeth filled that were decayed. When she came pain was complained of in the first molar next to the one extracted. This was excavated ready for filling, and some carbolic dressing put into the cavity. The pain continued, and the tooth was sensitive in the same way as the other ; she could not eat on it, and the slightest touch of an instrument, even on the healthy surface of the tooth, was felt. The pain was constant day and night, and of a dull heavy character. The patient wished very much that the tooth might be removed. The gums were ordered to be painted with a solution of tincture of iodine and tincture of aconite. A calomel and opium pill was given at night, and a general tonic was prescribed. The pain, however, continued ; nothing gave relief. At this time my suspicion was aroused, and, pretending to tap with an instrument a tooth in the upper jaw, I really did so to the bottom one ; but no pain was felt in either tooth. This I repeated several times, always with the same result. I felt convinced that the pain was entirely hysterical ; and, on inquiry, found from her relations that she was a very hysterical subject, and had been under treatment for hysteria about a year ago. Miss J— is a full-grown, well-developed woman, and of a peculiar lethargic, unenergetic disposition, and rather anæmic, but, on the whole, enjoying good health. She is regular in all her habits, and the catamenial periods are regular. This is the second case of the kind that has occurred in my practice ; the other is much like this.—MORTON SMALE, M.R.C.S., L.D.S. Eng., Dentist to the West London Hospital.—*Brit. Med. Journ.*

BROMIDE OF ETHYL AS AN ANÆSTHETIC.

As the favorable report of bromide of ethyl or hydromic ether contained in last week's journal may induce anæsthetists to try it, I venture to give the results of my experience of two samples obtained from chemists of the highest repute for the purity of their drugs. I found that the patients were rapidly affected, but manifested dislike of the odour. The pulse was stimulated, and there was almost as much excitement as though ether had been used. They recovered rapidly, but complained of giddiness, nausea, and headache, and looked as if they had taken alcohol. Comparing the effects with those of ethidene dichloride, I much prefer the latter, on account of the usual absence afterwards of sym-

ptoms of alcoholism. The voice and gait of a patient sometimes become quite normal in five minutes from the time deep stertor has been produced by ethidene. It causes vomiting only when the effect is carried beyond the degree usually required.—J. T. CLOVER.—*Brit. Med. Jour.*

THE USE OF THE AUDIPHONE IN DEAFNESS.

THE following is an easy mode of distinguishing those cases of deafness for which the audiphone is suitable. Place a loudly ticking watch on the upper middle incisor teeth, or on an upper eye-tooth, or between the edges of the upper and lower incisors. If its ticking be heard louder in either of these situations than when it is laid upon the temples or on the auricle, then the case is likely to benefit a good deal by the use of the audiphone. If the ticking of the watch be heard clearly and distinctly, and only through the teeth, then the case will get very great benefit by the use of that instrument. In cases in which the watch-tick is not heard in either of the above-named situations, no benefit results; not any, indeed, need be expected.

The statement by the inventor, that the use of the audiphone improves the natural hearing, must be a mistake; it does not improve it.—JAMES PATTERSON CASSELLS, M.D., Glasgow.—*Brit. Med. Journ.*

ZULU SKULLS.

WE learn that the skulls of five Zulus have been received at the museum of the Royal College of Surgeons of England, the first arrival in this country after the late war of the osteological remains of that interesting race. Four of the skulls were picked up off the north-east part of the battlefield of Islandula, and the fifth is that of an old woman who died in one of the caves of the same district, from exposure and starvation. One of the skulls has been completely perforated by a bullet, which has entered the cranium through the upper and anterior part of the left parietal bone, and passed out through the lower and posterior part of the opposite bone. There is also a simple fracture, extending on each side of the entrance wound for some distance. The

skulls possess all the characteristics which are typical of the negro races. It is to be hoped that additions will be made to those Zulu skulls now received, and that also some of the officials connected with the British Army in Afghanistan will follow the good example, and send home some skulls and skeletons of the inhabitants of that country.—*Brit. Med. Journ.*

Dental News and Critical Reports.

MEMORIAL IN SUPPORT OF THE DENTISTS ACT, ADDRESSED TO THE GENERAL MEDICAL COUNCIL.

GENTLEMEN,—The lately published Memorial addressed to the General Medical Council by the Association of Surgeons Practising Dental Surgery, urging the “consideration of the Dentists Act with a view to its amendment or repeal,” imposes upon the Representative Board of the British Dental Association the duty of preparing a counter memorial, of which the Board respectfully asks the consideration of the Medical Council.

Before entering upon the questions raised in the first-named Memorial, the Board thinks it desirable to inform the Council that the British Dental Association represents the opinions and interests of Surgeons practising Dental Surgery (thirteen of whom are members of this Board) as fully, and there is reason to believe much more fully, than the so-called Association of Surgeons Practising Dental Surgery; and that it represents, in addition, the interests and opinions of the Licentiates in Dental Surgery, and of such other of the Registered Dental Practitioners who conduct their practice in conformity with professional usage. Furthermore, that the British Dental Association was formed by the unanimous vote of a meeting of Registered Dental Practitioners publicly convened and very largely attended; and that one of the principal objects of its formation is the upholding and maintenance of the spirit and provisions of the Dentists Act.

Acting under the instructions of the Representative Board, we beg respectfully to submit that the “consideration of the Dentists Act with a view to its amendment or repeal” before

that Act has been brought into full operation, and before its value when in full operation has been tested by experience, would be not only premature, but altogether unprecedented. And, furthermore, that the provisions of the Act at the time of its passing were fully understood, and that hitherto nothing has occurred in the operation of the Act which calls for or would justify such consideration.

The foregoing opinions are supported by the following facts :

(a.) In respect of registration the Act does not break new ground, but follows in the lines of all preceding similar compulsory registrations, excepting in so far that more complete provision is made for the correction of the register than has hitherto been provided for the expurgation of a first issued, and consequently imperfect, register. But sufficient time has not been given for bringing into active operation the ample means provided for correction. Considerable progress has, however, been made in the collection of evidence (and otherwise) which, when completed and placed at the disposal of the Medical Council, will, in the opinion of counsel, lead to the erasure of very many incorrect entries. But if due consideration be given to the rights of persons registered, even on their own incorrect or false declarations, the investigations of their claims to remain upon the register must be conducted with care, and a legal determination may in certain cases be needed.

(b.) We beg to observe that the preamble of the Dentists Act is quoted in the aforesaid Memorial in part only, and that allegations of failure in registration, based upon a mutilated quotation, need no consideration. The preamble requires that persons specially qualified, and also persons practising as Dentists, shall be dealt with ; and the two conditions are fulfilled by the registration of the special qualifications of the one, and the practising of the other (without qualification).

(c.) The draft of the Dentists Bill was considered and generally approved by the Surgical Corporations, and the General Medical Council approved the Dental section of the Lord President's Medical Bill, subject to certain amendments, one of which consisted in the substitution of one of the clauses by a clause taken from Sir John Lubbock's Bill. The Dental section of the Government Bill when so amended, became in general effect similar to the Dental Bill of Sir John Lubbock, for which latter the Royal College of Surgeons of England expressed its preference in a communication addressed to the Medical Council. One thousand one hundred and fifty Dental practitioners petitioned Parliament

to pass the Bill. Included in this number were seventy surgeons practising Dental Surgery. There are supposed to be about 100 surgeons practising Dental Surgery, and of these, sixty-nine memorialised Members of Parliament individually in favour of the Bill.

When in the House of Lords, the Bill, under the direction of the Government, was amended and made conformable with the Medical Bill, and the amendments were accepted by the Commons. The Surgical Corporations accepted, and at once acted upon the powers given to them by the Act. And Dental schools have been established for the purpose of affording the special portion of the education prescribed under the Act.

(d.) An adverse Memorial was addressed to Members of Parliament, and adverse motions were made and negatived in both Houses. The views put forward by the Association of Surgeons practising Dental Surgery were well known to the Surgical Corporations and to the General Medical Council during the many months the Bill was under consideration.

(e.) We beg to submit that the question raised in the Memorial from the last named Association, respecting the use of the term Dental surgeon, &c., has been very fully discussed and conclusively decided: 1. By the Medical Council on two occasions. 2. By the Parliamentary Committee of the British Medical Association. 3. By Parliament itself when the Dentists Bill was in committee. 4. And subsequently by the Surgical Corporations in the wording of their respective Dental diplomas. For to contend that a person who is declared by a Surgical Corporation to be duly qualified to practise the "art and science of Dental Surgery," and to be a Licentiate in Dental Surgery of that Corporation, is not by the nature of his qualification a Dental surgeon, would be to advocate a senseless perversion of the use of language which would apply with equal force against the use of the term surgeon by persons qualified to practise surgery, or of physician by those qualified to practise physic. For the future no unqualified person can be registered; and it is not usual for Parliament to pass laws to act retrospectively. If foreign qualifications are to be registered the foreign titles must be accepted, whether or not they happen to include the term doctor or surgeon. For it is not likely that the proposal to limit the exclusive use of either term to one grade of persons only would be seriously entertained either abroad or at home.

(f.) In respect to the interpretation of the term "engaged in the practice of Dentistry or Dental Surgery," we beg to submit that paraphrases would not constitute or supersede

the necessity of a legal interpretation. We are informed that what constitutes a *bona fide* practising in the eye of the law can be determined only upon a case being submitted to a law court, a course which may be followed with obvious advantage by the Association of Surgeons Practising Dental Surgery.

(g.) In answer to the alleged incompetence of the General Medical Council to carry out the provisions of the Dentists Act, we beg to refer to the Report of the Executive Committee on the construction and working of the Council, wherein it is stated that "the Committee are of opinion that the Council is quite adequate for the performance of the additional duties;" and also to the expressions of gratitude conveyed to the Council by the British Dental Association, and by the Western Counties Dental Association for the prompt and efficient manner in which the Dentists Act has been carried into effect.

(h.) We do not consider ourselves at liberty to discuss the manner in which the General Medical Council thought fit to deal with the first draft of the Lord President's Medical Bill; but we may remark that the quotation therefrom is from its partial nature (like the quotation from the preamble of the Dentists Act) misleading. For the Memorial says nothing about the objection the Council raised to accepting the duties of "initiation" generally (Minutes, April 12th, 1878), or of the desire expressed in a resolution that its duties should remain restricted to "superintendence and control," but notwithstanding the resolution of the Council to the contrary (April 13th, 1878), the Memorial leaves it to be supposed, and even argues as though no objection had been raised on the part of the Council to its undertaking the initiation of "a scheme for the examination, licensing, and registration of Dentists." Again, the objection raised by the Council to delegating to a committee the power of erasing names from the Register, and the omission of this power in the amended Bill, to which it is desired the Dentists Bill should be made to conform, is altogether ignored in the Memorial, and the resolution asking for conformity is incorrectly applied to the Government Bill when in its unamended state.

Still less do we feel at liberty, under cover of a Dental question, to enter upon the discussion as to what the constitution of the Medical Council should be—whether it should be an executive or legislative body.

(i.) The allegation that the Dentists Bill was not—as recommended by the Council, July 4th—brought into conformity with the Lord President's Bill as it then stood is at

variance with the well-known facts of the case. A letter from Mr. Jenkyns (see Minutes, July 1st, 1878), states that the required conformity is about to be made,* and a comparison of the Dentists Bill as it entered the House of Lords with the Dentists Act and with the Government Medical Bill of July, 1878, confirms the statement made to the Council by the Government draughtsman.†

In conclusion, we respectfully beg to submit that the Association of Surgeons Practising Dental Surgery, have in their Memorial put forward allegations which cannot be supported, and have otherwise altogether failed to make out a case which would justify a "consideration of the Dentists Act with a view to its amendment or repeal." And we may add that no sufficient reason can be adduced for disturbing questions recently settled (after full deliberation) to the satisfaction of an overwhelming majority of those interested in the settlement.

On behalf of the British Dental Association, and in the interests of Dental education, for the successful conduct of which a settled state of the profession is needful, we venture to express an earnest hope that the General Medical Council will refuse to sanction any tampering with the Dentists Act until it has had a full and fair trial, and until defects are clearly recognised and its amendment urged by other than the very limited number of persons who opposed its passing, who now desire its repeal, and who, there is reason to believe, represent the opinions and wishes of a small minority, even of the qualified Surgeons practising Dental Surgery.

We have the honour to be,

Your obedient servants,

JOHN TOMES, F.R.S., M.R.C.S., L.D.S. Eng.

JAMES PARKINSON, L.D.S. Eng.

JAMES SMITH TURNER, M.R.C.S., L.D.S. Eng.

THOMAS UNDERWOOD, L.D.S. Eng.

EDWIN SAUNDERS, F.R.C.S. Eng.

THOMAS A. ROGERS, M.R.C.S., L.D.S. Eng.

Business Committee of the Representative

Board of the British Dental Association.

40, Leicester Square;

April 7th, 1880.

* The amendments were introduced and the Bill passed through Committee on the afternoon of July 4, while the Medical Council was sitting.

† "The amendments which are about to be made in the Dental Practitioners' Bill in the House of Lords are proposed by the Government for the purpose of bringing the Bill into conformity with the present Medical Bill, so as to place the Dentists in the same position as they would be in if the Government Bill passed with the Dentists' clause in it, the principles of which have been approved by the Medical Council."—*Extract from Mr. Jenkyns' Letter to the President, see Minutes, July 1, 1878.*

Miscellanex.

PRATT FUND.

WE have been asked to make an earnest appeal to the profession on behalf of Mr. Robert Pratt, lately of Broad Street, Golden Square. In his seventieth year he has become broken in health and fortune, and, having outlived the necessity for his existence, he finds that he has also outlived the means by which existence is possible. He has only yielded to the pressure of circumstances, but they have been very hard in his case. The days for the peripatetic Dental merchant have passed away, and "old Pratt," as he was called in kindly regard for nearly half a century, has been pushed out of his place and the space occupied by others with larger means and greater ambition. It would be very pitiful if so faithful a server of the Dental world were allowed to starve or die in a poorhouse; but we hear that the end must be of that nature unless those who remember him in his prime are willing to help him, out of pure love of charity, now in his last days of mental, physical, and commercial bankruptcy. There must be many who will be able to call to mind some little kindness received at his hand, that they will gladly repay with interest, as there must be others who will recollect that for many a weary year he has gone up and down the land, simply doing his duty, and earning a hard living, to support himself and two delicate daughters.

Mr. John Gartley, of 5, Sackville Street, will receive and acknowledge in this Journal any contributions towards Mr. Pratt's necessities, and we trust we shall shortly be able to announce a list of subscriptions bearing some relation to the urgency of the case.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN, 40, LEICESTER SQUARE.

At the ordinary meeting, to be held on May 3rd, 1880, Arthur Underwood, Esq., M.R.C.S., &c., will read a paper on "Nerve-stretching in Neuralgia."

Casual communications will be read from Messrs. G. H. Harding, E. M. Todd, F. J. Vanderpant, and H. Moon.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

At the April meeting of the Dental Board of the Faculty the following gentlemen passed the first part of the examination for the licence, which includes Anatomy, Physiology, and Chemistry:

Mr. D. R. Cameron.

Mr. B. Sutherland.

Mr. J. A. Goercke.

Mr. Robert Thomson.

Mr. W. Lang.

Mr. A. C. Whyte.

Mr. W. F. Martin.

Mr. Alex. Whyte.

All of the Glasgow Dental School.

Four candidates were remitted in this part of the examination.

Mr. William Henry Key, Glasgow, passed the entire examination, and was admitted a Dental licentiate.

C. ASH AND SON'S IMPROVED PINK RUBBER.

WE have received and used with much satisfaction some excellent samples of this new pink rubber, which, with care in exposure to the sun, immersed in spirit of wine, develops a more real gum-like colour than anything we have yet seen. In other respects it is the same as Messrs. Ash's other pink rubbers, as regards temperature and time of vulcanising, but being lighter, more pieces may be made from the same weight.

A NEW MOTOR FOR THE OPERATING-ROOM.

By THOS. FLETCHER, Esq., F.C.S.

A FEW days ago I went with a party of the Manchester Scientific Students' Association to the works of W. Bailey & Co., Salford, Manchester. Amongst other things, I saw a small hot-air engine, about the size of a cigar box and quite as portable. The motive power is obtained by the alternate heating and cooling of about three or four cubic inches of air—the same air being constantly heated and cooled without change. The heat was supplied by an

ordinary small spirit lamp, and the power available was evidently ample to work a burring engine or a sewing machine. The same engine (Lehmann's patent) is made in large sizes, but the one I refer to was the prettiest adaptation of a small motive power I have ever seen. About ten seconds after the lamp is put under one end of the engine, the fly-wheel commences to revolve, and the most astonishing part of the thing is the great power developed by such a tiny flame as is required. Mr. Bailey informed me that the cost of the larger sizes for fuel is about two pence to three pence per horse power per day, and for that this cost not only is the power provided, but also that all the heat not converted into mechanical energy can be utilised in providing a constant supply of hot water. The small model I specially refer to has a water jacket round one end of the cylinder containing some six or eight ounces of water. This in one and a half to two hours becomes heated sufficiently to reduce the power of the engine considerably, and requires a little time to cool. In the larger engines, a circulating arrangement is used which changes the water as it becomes heated, and a similar arrangement can be connected to the small size when it is necessary to use the power continuously the whole day through.

As these small motors are quite new, none having been yet sent out, the cost has not yet been definitely fixed; but as the whole affair is so simple, it cannot be any great amount.

A new Dental Hospital was opened on the 15th ult., at Liverpool.—*Lancet*.

LARVA IN A GUM-BOIL.

At the Aberdeen, Banff, and Kincardine Branch of the British Medical Association, on Wednesday, March 3rd, 1880, Dr. Alexander Ogston exhibited, on behalf of Mr. Craven, of Thurso, a living larva of one of the *Elatæridæ* about an inch in length, removed from a gum-boil. The larva was supposed to have found its way into the gum-boil through the antrum.

**MIDLAND COUNTIES BRANCH OF THE BRITISH
DENTAL ASSOCIATION.**

WE have been requested to publish the following correspondence :

**MIDLAND COUNTIES BRANCH OF THE BRITISH DENTAL
ASSOCIATION.**

DEAR SIR,—At a Meeting of the Profession, held in Manchester, on Jan. 24th, it was decided that a Branch of the Brit. Den. Association should be formed for the Midland Counties, and a Council was appointed to arrange needful preliminaries. It is thought that the formation of local branches will greatly assist the work of the Central Association, and it is hoped that all Members of the B.D.A. residing in the District will join; you are, therefore, particularly invited to attend a Meeting of Members of the B.D.A., to be held at the Trevelyan Hotel, Corporation Street, Manchester, on Wednesday, May 5th, at four o'clock, to receive a Report from the Council, pass Bye-laws, elect Officers, &c.—I remain, dear Sir, yours very truly.—W. H. WAITE, Hon. Sec. *pro tem*.

P.S.—A reply stating your intention to be present will much oblige, addressed W. H. WAITE, 10, Oxford Street, Liverpool.

W. H. WAITE, Esq.

120, Oxford Street, Manchester;
April 25th, 1880.

SIR,—I have to acknowledge receipt of circular inviting me to attend a meeting to be held at the Trevelyan Hotel, Corporation Street, Manchester, May 5th, 1880, at 4 p.m. I was not aware that a Midland Counties Branch of the British Dental Association had been formed, nor can I think so at the present time, not having been consulted in the matter as one of the representatives for Manchester on the Representative Board of the British Dental Association.

I cannot imagine for a moment that gentlemen who are on that Board can be found so wanting in the usages of ordinary courtesy as to move in establishing a branch without naming their views and wishes, either by letter or otherwise, to a co-representative. In the absence of a satisfactory explanation, I must beg to decline taking any part at your meeting called for May 5th, or associating myself therewith for the present. I do not take the slight to myself, but to

the Dental profession as a body in Manchester, who are second to none for intelligence, respectability, honour, and independence.

Yours most obediently,

FRANK A. HUET.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—I am not given to rushing into print, but the letter of your correspondent, "Common Sense," induces me to attempt a reply, and as I wish to deal kindly with that gentleman I trust my remarks will be taken in good part. They may perhaps induce him to face the examiners once more. Briefly, then, leaving school at the age of nine to begin work upon the lowest rung of the ladder it will be conceded that, without help, I had an uphill battle to fight. Commencing practice with less than "Five pounds" in cash I had to advertise, as one may say, to live, a crime that was punished by the scorn of the great (Dental) ones of the earth. Advised by one of the leading Dentists of the county in which I reside, I discontinued my advertisements, which resulted in my practice falling off nearly "one half." Resolving to persevere I pushed steadily on, endeavouring to so fulfil my duty that each patient should find pleasure in recommending me another. The result has more than answered my expectations.

I was fortunate in being eligible as a candidate for the diploma of the College of Surgeons, and, acting upon the advice of a "good-natured friend," presented myself without preparation, and was most deservedly "plucked" and referred to my studies for six months. I honestly admit my success would have been undeserved, and I should have valued the diploma but lightly had I obtained it under the circumstances narrated. Resolving to win, I commenced a steady course of reading, and on a second trial passed, I hope creditably. The only mortification to mar the pleasure of my three weeks sojourn in London was the receipt of a "Post card" informing me of the date fixed for the *viva voce* part of the examination.

The possession of the diploma has improved my social status, and my practice has more than doubled in value.

I hope the narration of these facts may induce "Common

Sense" to set earnestly to work, and try again. I would suggest in all kindness he should at once place himself under the tuition of one able to teach and give him a lead, and with a few months' earnest attention to his studies, he will be able with confidence to face the Examiners of the College and obtain the coveted diploma.

There is a little book written by Mr. Sewill, worth its weight in gold, he may learn by heart, and two hours morning and evening with "Tomes" and "Gray" will pay him handsomely for all the time devoted to them.

I am, &c.,
TELUM.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Your correspondents of March 15th are anxious to obtain the L.D.S. diploma. May I suggest to them that the same is obtainable at Dublin, Edinburgh, and Glasgow.

The inference to be drawn from the anxiety of "Africanus," "Registered," and others whose desires are similar, is that the L.D.S. of the above schools are not good enough for them.

There are now considerable numbers who have taken the Dental diplomas of those schools, many, no doubt, because it was understood the English diploma would not again be obtainable *sine curriculum*.

Accepting the inference that the English diploma is of most value, would it not be unfair to such of us as have taken our L.D.S. from other schools, to modify the examination for that of the Royal College of Surgeons of England.

Further, if the English diploma be of higher value, any such modification as is desired would depreciate it. "Registered" evidently intends it should, for he writes, "I cannot afford to go through the full curriculum for the highest L.D.S., &c."

It is a strange threat of "Registered" that, if he cannot obtain a lower form of the English L.D.S., he will appeal to our American friends, whose diplomas the Medical Council do not accept; while he ignores the existence of other British schools whose diplomas are legally on a par with the English.

The L.D.S., wherever obtained, ought to represent the same degree of proficiency to the public. And if they do not do so at the present time in the eyes of the profession, it is because the English diploma has for years only been obtainable after a systematic curriculum. It should not now be lowered, and personally there appears to be no necessity, other Dental schools having been established whose diploma is granted *sine curriculum*.

I am, &c.,

L.D.S. EDIN.
Digitized by Google

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:

Twelve Months (post free) 14s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.

5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

Communications received from G. H. J. Rogers, J. Jamieson, Secretary of the Faculty of Physicians and Surgeons of Glasgow, Thomas Fletcher, "Telum," Felix Weiss, F. Canton, F. A. Huet.

BOOKS AND PAPERS RECEIVED.

- 'Hæmatinic Properties of Dialized Iron.' By R. Amory, M.D., of Langwood, Mass. Published by Lehman and Bolton, Philadelphia.
- 'Royal Cornwall Gazette,' April 16th.
- 'Dental School and Hospital of Glasgow.'
- 'Monthly Review of Dental Surgery.'
- 'Medical Press and Circular.'
- 'L'Odontologia.'
- 'Dental Cosmos.'
- 'Glasgow Medical Journal.'
- 'Aberdeen Journal.'
- 'Medical Students' Register.'
- 'Correspondenz Blatt für Jahnärzte.'
- 'Hampshire Advertiser.'

British Journal of Dental Science.

No. 296.

LONDON, MAY 15, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

LECTURES ON THE PHYSICAL EXAMINATION OF THE MOUTH AND THROAT.*

By G. V. POORE, M.D., F.R.C.P.,
Professor of Medical Jurisprudence, University College; late
Assistant Professor of Clinical Medicine; Assistant
Physician, and Physician in Charge of the
Throat Department of the Hospital, &c.

(From the 'Lancet'.)

LECTURE I.—THE PHYSICAL SIGNS DERIVABLE FROM THE BREATH, LIPS, TEETH, AND MOUTH.

GENTLEMEN,—It is my duty to bring to your notice the various physical signs of disease which are to be obtained from an examination of the throat and windpipe; but inasmuch as it is impossible to properly examine the throat without at the same time examining the mouth and nose, I think I shall be best fulfilling my duty by dealing methodically not only with the throat, but also with the oral and nasal cavities which lie above it.

The physical signs met with in these regions of the body appeal not only to the sight, touch, and hearing, but occasionally to the sense of smell as well; and the first thing which forces itself on our attention is often the odour of the breath.

The *smell of the breath* is a valuable physical sign, and in many diseases is so characteristic as to enable the man of experience to form a diagnosis from it alone with almost absolute certainty. It is impossible to describe the various odours of the breath; experience alone will enable you to distinguish one from the other, and I shall merely content myself with cataloguing some of the most distinctive of them. The smell of drink is the most common of all, and in cases

* Delivered to the Junior Class of Clinical Medicine, University College.
VOL. XXIII.

of insensibility is often a valuable indication of the cause. It may give a valuable hint as to the habits of the patient; and I would here remind you that over-indulgence in alcoholic liquors is one of the most common causes of congestion and catarrh both of the pharynx and larynx. You must not run too quickly to the conclusion that because a man's breath smells of drink he is necessarily a drunkard, for a single glass of wine or beer is sufficient to impart an odour to the breath for some time after it has been taken. When directing your attention to the alcoholic smell of the breath in the presence of the patient, I am in the habit of speaking of it as *oinosmia* (from *οἶνος*, wine, *ὄσμη*, an aroma), since patients naturally resent having attention bluntly called to the fact that they smell of drink.

The presence of carious teeth imparts an odour to the breath which is quite characteristic, and which, according to Mr. Salter, resembles no other odour except that given off by the genus of neuropterous insects called *Chrysopa*. Want of attention to the mouth, and allowing food to lie between the teeth and decompose, or the presence of decomposing matters in the crypts of the tonsils, imparts a foul odour to the breath. A disordered stomach also causes the breath to be fetid.

A peculiarly disgusting and perfectly characteristic odour of the breath is present in those cases of chronic inflammation of the nasal and pharyngeal cavities, which are known from this fact as *ozæna*, and which are most often due to caries or necrosis of the nasal bones which is generally of syphilitic origin. The smell, however, may be present without any disease of the bones, in cases of chronic inflammation of the cavities occurring in scrofulous subjects.

In cases of dilatation of the bronchial tubes accompanied by ulceration and copious purulent discharge, the smell of the breath is peculiar and almost diagnostic of the condition, and in gangrene of the lung the odour of the breath reaches a degree of foulness which once smelt can never be forgotten.

In cases of fever, with high temperature, a dry mouth, and the accumulation of sordes on the teeth and gums, the smell of the breath is peculiar. In pyæmia and in diabetes the breath has a sweet odour, but the odour in each of these diseases is perfectly distinguishable.

With inflamed gums the breath is apt to smell. This is peculiarly the case in patients under the influence of mercury, and the term mercurial odour of the breath is one in common use. In scurvy the breath is apt to be very foul. It is needless to say that certain articles of diet, as garlic and onions,

and certain drugs, as turpentine, copaiba, and some of the essential oils, are detectable in the breath.

The *inspection of the lips* is capable of furnishing many facts which are of great service in forming a diagnosis. The *form* of the lips is characteristic in different races; thus, the thick lips of the African negroes and the thin lips of most European races are well known. In conditions of general plethora the lips look swollen and big. A few cases have been recorded of great hypertrophy of the lips and neighbouring parts, a notable example being given by Mr. Barwell in the eighth volume of the Clinical Society's 'Transactions.'

The *colour* of the lips is a matter of great importance. After great loss of blood the lips may appear of a waxy whiteness, and such an appearance should at once lead to questions likely to elucidate this point. A recent confinement attended by hæmorrhage is the most common cause of this appearance in women. Anæmia and leucocythæmia, arising from no matter what cause, produce a pallor of the lips, and in investigating cases of anæmia, we invariably look to the mucous surfaces of these parts. It is right to remind you, however, that undoubted evidence of hydræmia may be present without any very obvious alteration of the tint of the lips.

The lips are often unduly red in cases of general plethora and in the early stages of many febrile conditions. A cyanotic tint of the lips may be due to extreme cold, to those malformations of the heart which give rise to the condition known as cyanosis, and to a mal-aëration of the blood arising from no matter what cause, atmospheric, pulmonary, or cardiac. A patch of herpes on the lips (*herpes labialis*) is very commonly seen. It is a common accompaniment of an ordinary cold, and it is well to bear in mind that such an appearance may be indicative of more serious trouble, such as pneumonia. It is sufficiently often an accompaniment of pneumonia to make it incumbent upon us always to investigate this point when we are confronted with a patch of herpes on the lips.

In febrile conditions the lips get dry and cracked, and sordes accumulate upon them. Sordes are collections of dried mucus, evaporated saliva, and food particles, which cannot be removed, owing to the general dryness of the mouth and the paucity of the salivary secretions. This condition of the lips is seen in the most extreme degree in the state known as the typhoid condition, in which also the lips are often brown or almost black.

Round the margins of the lips are occasionally seen cracks,

white lines, and little pits, the latter reminding one of the appearance known as the *lineæ albicantes* which occurs on the abdomen after pregnancy. These appearances occurring on the lips are sufficient to raise a suspicion of congenital syphilis. The other indications of syphilis which we may find upon the lips are— (1) a true infecting sore or hard chancre, which is happily rare; and (2) mucous tubercles, which may be present in cases of congenital or acquired syphilis. These mucous tubercles have the same appearance when seen here as when seen elsewhere—flat, slightly elevated patches, with a dirty-whitish surface, surrounded by a congested areola. Epithelioma is among the more rare diseases of the lips, concerning which one should be on one's guard.

The *movement* of the lips is a matter of great diagnostic importance. The muscular power of the lips may be impaired or abolished in several distinct conditions, such as hemiplegia, facial palsy, bulbar or labio-glosso-laryngeal paralysis, and general paralysis of the insane.

In hemiplegia the lip palsy is often slight, and in very slight cases which have partially recovered, a trifling drooping of the *prolabium* of the upper lip on one side, just sufficient to destroy the symmetry of the "Cupid's bow," is all that we can detect. The observation of this slight drooping and want of symmetry should always lead to an investigation into the history of the patient, and to questions likely to elucidate the question of hemiplegia. In marked cases of hemiplegia, and in cases of facial palsy from disease or injury to the trunk of the facial nerve, the paralysis of one-half of the lips is easily demonstrated, and on asking the patient to show the teeth it will be observed that the teeth are imperfectly exposed on the paralysed side; and the angle of the mouth is drawn over to the sound side. Facial palsy may be double, and then this want of symmetry is not observed, but the face is expressionless, and the teeth and gums cannot be exposed.

In bulbar paralysis the condition is usually bilateral, and the patient is quite unable to move the lips. In the later stages of this disease the lips waste, and the under lip droops so as to expose the gums and allow the saliva to run out of the mouth.

In general paralysis of the insane there is a paretic condition of the lips, and when they move they do so in a hesitating jerky manner, which is very characteristic.

In alcoholism the movement of the lips is also often tremulous. In chorea the lips are liable to those uncertain jerky movements which are so characteristic of this condition

In "muscular tic" one side of the mouth may be the seat of spasmodic movement. Lastly, in tetanus and spinal meningitis there occurs that condition which is called the risus sardonicus, which is caused by a spasmodic retraction of the angles of the mouth.

Dribbling of saliva is a symptom which is due to many causes. It may be due to an excessive secretion of saliva, a condition seen in cases of mercurial poisoning and in some other states. It is present in cases where there is deficient movement of the lip and tongue, as in bulbar paralysis, or in cases where movement of the tongue is rendered impossible or painful by the presence of sores and ulcers. In patients also with whom the act of swallowing is impaired so painful, as in cases of paralysis or stricture of the pharynx, or inflammation of the tonsils or throat, dribbling of the saliva is apt to occur. In children dribbling is a physiological condition, owing to a want of vigour and purpose in the movements of their lips and tongues, and in idiots this infantile condition would seem to be permanent. Old writers considered the dribbling of saliva to be characteristic of idiots and madmen.

An *inspection of the gums* occasionally affords important evidence of disease. Their *colour*, like the colour of the lips, may be pale or red or livid, and is an indication of anæmia or plethora or those conditions mentioned in connexion with the lips which give rise to a cyanotic tint. The gums are sometimes spongy and congested, and liable to bleed at slight causes. This is often the case in depressed conditions of health, arising from whatever cause. It is present in a marked degree in persons who are under the influence of mercury, and to a less extent in those who are taking iodide of potassium. In leucocythæmia and in Hodgkin's disease the gums are often swollen and pale, and occasionally they are stated to become gangrenous. In purpura hæmorrhage from the gums is a common occurrence. In scurvy the gums are very greatly and remarkably affected. They become sore and apt to bleed at the slightest touch, and get swollen, spongy, and livid. The lividity is stated to be most marked at the free edges. The swelling of the gums is so great as occasionally to obscure the teeth, and in extreme cases they protrude between the lips. They get livid and almost black, and undergo sloughing and ulceration, which causes the breath to be peculiarly offensive. The sloughing may leave the fangs of the teeth exposed, and in such cases the teeth commonly fall out. Dr. Buzzard states that this condition of the gums is by no means invariably present in scurvy, and that all the other symptoms

of the disease may be present in a marked degree, while the gums are not noticeably affected. Indeed, the gums in scurvy may occasionally be paler than usual and contracted.

A blue line upon the gum may, in the vast majority of cases, be taken as certain evidence that the patient is suffering to a greater or less extent from lead-poisoning. This "blue line" is due to a deposit of lead sulphide in the tissues of the gum. Dr. Hilton Fagge has made sections of the margin of a gum affected with a lead line, and by the aid of the lower powers of the microscope was able to see that the discoloration was not uniform, but was distributed in the form of rounded loops. The pigmentation was seen to be due to minute granules, and these granules were situated sometimes in the interior of the smaller blood-vessels, and sometimes outside them in the tissue immediately adjacent. The deposit is in reality black, its blue appearance being due to the fact that it is seen through a thin translucent layer of gum. Care must be taken not to mistake the purple-congested edge of the gum of persons who do not clean their teeth for the deep blue line which is caused by lead. The blue line is produced by the action of hydrogen sulphide upon the lead which is presumably circulating in the blood. The hydrogen sulphide is produced by the decomposition of food particles lodging between the teeth, and adhering to the tartar. Persons who are careful to keep the teeth clean, and in whom no decomposition of the food particles takes place, may be suffering from lead-poisoning and yet have no lead-line upon the gums. The lead-line once formed, and being due to the deposit of an insoluble salt, may remain for months after the system has been freed from lead. Persons who have been exposed to the action of lead may exhibit no line upon the gums until after the administration of iodide of potassium. This is difficult of explanation, but the fact admits of little doubt. The blue or black discoloration caused by lead is not always limited to the margin of the gums, but may occasionally form black patches on the inside of the lips or cheeks.

Occasionally among the ill-fed and dirtily-kept children of the poor, and especially during the first dentition, the gums become swollen and the edges ulcerate, the ulcerated surface being covered with a dirty-grey secretion. This condition is known as gingivitis, accompanied by offensive breath, and some increase in the flow of saliva.

The *teeth* often afford valuable evidence of constitutional conditions. Delayed dentition is apt to occur in children that are debilitated from any cause, but more particularly is this the case in rickets. Finding the dentition delayed, we

should always search for other evidence of rickets. The milk teeth should begin to appear at the seventh month, and should be all "cut" by the end of the second year. The teeth appear in the following order—central incisors, lateral incisors, anterior molars, canines and posterior molars; and each of these five groups appears by the seventh, ninth, twelfth, eighteenth, and twenty-fourth month; the number of teeth which a child should have at the end of the months named being four, eight, twelve, sixteen, twenty. It may be some help to the memory to call attention to the fact that when a child is twelve months old there should be twelve teeth in the mouth. These numbers are liable to great deviation even in health. Some healthy children are precocious, while others are backward in the matter of dentition. The teeth may be wholly or in part deficient as the result of congenital defect. Caries or decay of the teeth is so common in this country that very few escape from it. It is more common in women than men, and is predisposed to by pregnancy and by the scrofulous and tuberculous constitutions. It is said to be caused by the generation of acid from the fermentation of food particles lodged between the teeth. There is a condition known as "rocky" enamel, in which the enamel of the teeth is grooved and pitted and honeycombed. This condition is brought about by rickets, or by any depressing illness occurring during dentition. Occasionally the teeth get excessively worn, so that they appear truncated, and the dental arch presents the appearance of a flat level border, the exposed dentine presenting a yellowish appearance. This condition, of which a very good example was lately attending in my out-patient room, is rare, and is said to be predisposed to by syphilis, and to be favoured by the use of gritty food. Mr. Jonathan Hutchinson has pointed out that a peculiar condition of the permanent teeth often exists in patients who are the subjects of inherited syphilis. The incisors and canine teeth are small, peg-like in shape, narrow at the free edge, and either excavated by a crescentic notch at the margin or marked by a crescentic groove. The conical condition is most marked, according to Salter, in the lower, and the crescentic notch is most conspicuous in the upper incisors. When the teeth are lost very early in life, inquiry should always be made as to whether the patient has taken much mercury, and, if so, for what reason.

The *mucous membrane of the mouth* is sometimes swollen and red as part of a general catarrh. It may be swollen in consequence of gastric irritation, brought about by errors in diet. In children who are ill fed, and especially during

dentition, small, circular, painful ulcers called aphthæ very frequently appear upon the gums and the internal surface of the cheeks. They are almost always an indication of gastric disturbance from injudicious feeding. When we get the mucous membrane of the mouth inflamed, and upon the inflamed surface a parasitic fungus (the *oidium albicans*) growing, we have the well known disease called thrush. The mouth, tongue, and palate and pharynx may be covered with white patches, and we may be in doubt whether these patches are due to curdled milk or diphtheria, but if a small quantity be placed under the microscope with a drop of caustic potash, the well known mycelium and spores of the *oidium albicans* are easily seen, and serve to clear up all doubts. Whether the fungus is the cause of the inflamed condition, or whether the inflamed patches form a fitting nidus for the growth of the fungus, is an open question. Thrush never occurs in well nursed children, and if a young child is fed upon good milk and nothing else, thrush seldom appears. When, however, mothers give farinaceous matter to very young children, often combined with milk which is slightly sour, this sticky mixture adheres to the inside of the mouth, and if the mouth be not very carefully cleansed out after every meal, the decomposing food particles irritate the mouth, cause it to inflame, and form a soil upon which the *oidium* grows luxuriantly.

Thrush is liable to occur in adults towards the termination of chronic illnesses, when they are too weak to cleanse their mouths by vigorous movements of the tongue. I have seen patches of thrush also occurring in a patient the subject of labio-glosso-laryngeal paralysis, because the movements of the mouth were too feeble for the purpose of properly cleansing it. The lesson to be learnt from these facts is that in feeble persons the mouth needs to be artificially cleansed after feeding by being sponged out with some antiseptic, such as a solution of borax, or, perhaps, there is nothing better than peppermint water, which to many persons is agreeable and refreshing.

ACONITUM AND ACONITIA *VERSUS* VERATRIA IN FACIAL NEURALGIA.

By JAMES STOCKEN, Esq., L.D.S.

In the Journal of April 1st, p. 320, Mr. Fletcher has expressed his surprise that I should have omitted in my

'Dental Materia Medica' so important a neuralgic remedy as the alkaloid veratria.

In the compilation of my work it was my object to make it as concise as possible, and therefore I omitted the consideration of all substances which were in any degree of questioned utility *in our specialty*.

I may have erred in this direction, but so far as the substance in question is concerned my experience of its efficacy has not coincided with that of Mr. Fletcher's. I have found aconite and its preparations far more reliable.

When I commenced the compilation of my book I made note of veratria as one of the preparations it would be well to introduce, but a study of the opinions of such excellent authorities as Pereira and Waring, coupled with my own experience, decided me to omit it. Pereira, in speaking of veratria, says, "As a remedy for neuralgia it is, however, far inferior to aconite and its alkaloid aconitia." Waring remarks, "Occasionally it affords great temporary relief, but it often fails entirely; it is inferior in every respect to aconitia."

I may also mention the danger arising from the application of veratria to a broken surface, and the uncertainty of the quality of the preparation. This is the explanation I have to offer for the omission, and I trust it will be satisfactory to Mr. Fletcher.

21, Endaleigh Gardens, N.W.

Hospital Reports and Case-Book.

MONTHLY REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM APRIL 1ST TO APRIL 30TH, 1880.

Extractions	{ Children under 14	592
	{ Adults	685
	{ Under Nitrous Oxide	364
Gold Stoppings		68
White Foil ditto		2
Plastic ditto		266
Irregularities of the Teeth treated mechanically		42
Miscellaneous Cases		254
Advice Cases		99
Total.....		2372

CORNELIUS ROBBINS,
House Surgeon pro tem.

**THE NATIONAL DENTAL HOSPITAL AND COLLEGE.—
ANNUAL DISTRIBUTION OF PRIZES, 1880.**

THE annual distribution of prizes to the successful students took place at the Beethoven Rooms, Harley Street, on Thursday, May 6th. Luther Holden, Esq., F.R.C.S., President of the Royal College of Surgeons, occupied the chair.

The DEAN (Mr. T. Gaddes) read the following report for the past year :

The past year's history of the National Dental Hospital and College is illuminated with success, and, therefore, is highly satisfactory. The prosperous condition and progress of the hospital as a charity will be found recorded in the recently published 'Report.' Of the educational department of the institution a good account can be given. In this section, as in all undertakings where earnestness and diligence are bestowed, the efforts of the several teachers have been fully appreciated by the students.

The teaching and, as a result, the work done at the hospital have been considerably enhanced in efficiency by the delivery of a series of 'Clinical Demonstrations,' and also of a course of 'Lectures on Operative Dental Surgery and Therapeutics,' by Dr. Thompson. By thus securing the services of one whom we are pleased to recognise as a colleague, we tacitly express our desire to see Operative Dental Surgery included in the curriculum of the students of Dentistry. Manipulative ability is sought of the Dentist by the public, and the candidates who present themselves for examination at the Royal College of Surgeons of England, have to give practical evidence of their handiwork in the mouth ; but as matters at present stand, the student is not required to be specially taught that which he is specifically examined upon.

Recognising the value of clinical teaching, each member of the staff of the hospital has undertaken to deliver at least two clinical lectures during the year ; and nine such lectures were delivered during the past winter session. It is felt that the importance of practical teaching cannot be over estimated, and we are gratified to find that the general work done by our students during the past year will compare favorably with that so done at any other school.

Considering the transitory state of our profession, the number of students who have joined the institution during the year has been greater than we had anticipated, fourteen

new names having been added to our roll. And it is worthy of observation that the two students who have in the several competitions proved themselves the most meritorious are first year's men.

Mr. Mansell has won the Prize Medal for Dental Surgery and for Dental Mechanics; also the Certificate of Honour for Dental Anatomy, for the Elements of Histology, and for his paper on Deformities of the Mouth. This list of his honours is not yet complete, for in the special examination for General Proficiency he was awarded the highest prize we have to give—the Rymer Gold Medal. Mr. Pidgeon will receive the Prize Medal in Dental Anatomy, and in Metallurgy; also the Certificate of Honour for Operative Dental Surgery, and for the subject of Deformities of the Mouth. Mr. Frederick Rose will receive the Prize for Operative Dental Surgery, and the Certificate of Honour for Dental Surgery; while a Certificate of Honour has been awarded Mr. Bailey and Mr. Gabell for Metallurgy and Dental Mechanics respectively.

Several competitors entered at the various examinations, therefore these honours have been won with great credit.

The resignation of Mr. Stocken from the extra lectureship on Dental Materia Medica and Therapeutics was received with much regret, but it is satisfactory to find that, having relinquished the duty, he now enjoys better health. We have also to record the resignation of Mr. Oakley Coles as dean. That office he held for more than two years, and the present organisation of the school is the result of the energy with which he devoted himself to the working of the institution. Indeed, had it not been for his efforts in the past, we should not have been here this evening. The retirement of one so active as Mr. Coles from the responsible deanship is cause for regret.

It may not be inopportune to here direct attention to our existing arrangements for preparing candidates for the Preliminary Examination in Arts, and the facilities which that class offers should not be lost sight of.

This report cannot be concluded without expressing our high appreciation of the distinguished honour which has been conferred upon us by the presence this evening of our esteemed Chairman, Mr. Luther Holden; and while we sincerely thank him for his great kindness, we trust that the results of our earnest efforts to advance Dental Education will not be unworthy of his commendation.

Mr. RYMER introduced Mr. T. Mansell to receive the "Rymer Medal," awarded for general proficiency. He said that there had been two competitors besides Mr. Mansell,

and therefore it was the more honorable to Mr. Mansell that he had secured the first place.

The CHAIRMAN.—I have very great pleasure, Mr. Mansell, in handing this medal to you. I wish it had been handed to you by Mr. Rymer himself, who is the generous founder of that gift; but he wished me to do it, and therefore I bow to his request. In giving it to you I may say I have read your papers, though I need not have read them, because it had nothing to do with the adjudication of the prize; but still, I have read your papers, and I have read them with great satisfaction, and I think you richly deserve what you hold in your hand. (Applause.)

Mr. WILLIAMS presented Mr. T. Mansell to receive the Prize Medal for "Dental Mechanics." He was sorry to say that, in consequence of illness, Mr. E. T. Gabell was unable to be present to receive a Certificate of Honour.

The CHAIRMAN.—Mr. Mansell, I shall have the pleasure of handing more than one thing to you this evening: that I see clearly. Those medals are very gratifying. We are not allowed to wear them on our breasts; but if we were, I am sure you would well become them. (Applause.)

The DEAN introduced Mr. W. J. Pidgeon to receive the Prize Medal in "Dental Anatomy and Physiology;" and Mr. T. Mansell to receive a Certificate of Honour.

The CHAIRMAN.—Mr. Pidgeon, in giving this medal to you I beg to tell you that, although no one knows better than myself the value of a medal of this kind, I am aware of the amount of work that is required in attaining such. In handing this medal to you I hope and believe that it will incite you all the rest of your life to carry out and improve, if possible, the good beginning you have made. (Applause.)

Mr. OAKLEY COLKS presented Mr. T. Mansell to receive the Prize Medal in "Dental Surgery and Pathology," and introduced Mr. F. Rose to receive a Certificate of Honour. In introducing Mr. Mansell, he said that no words of commendation were required at his hands. Mr. Mansell had the gift of having his knowledge always available for the practical purposes of life, and the answers Mr. Mansell had given him showed that his knowledge was available on the shortest notice and at the moment it was required. Mr. Rose had distinguished himself, not to such a high degree as Mr. Mansell, but he had received a high Certificate of Honour. (Applause.)

The CHAIRMAN.—Mr. Mansell, I know sometimes a man comes up for competition for prizes, and all others give place to him; there is no chance. It is a great thing for you,

Mr. Rose, to come up second with a man like Mr. Mansell. (Applause.)

Mr. ALFRED TRIBE presented Mr. Pidgeon to receive the Prize Medal for "Metallurgy," and introduced Mr. Bailey to receive a Certificate of Honour. In doing so he said he had to express his great pleasure in introducing those two gentlemen, who had been most regular in their attendance, and most attentive to their studies.

The CHAIRMAN.—Mr. Pidgeon, I hand you with great satisfaction this medal for the Prize for "Metallurgy;" and Mr. Bailey, I have also equal pleasure in handing you this Certificate of Honour for excellence in the same subject. (Applause.)

Dr. THOMPSON presented Mr. F. Rose to receive the Prize, and Mr. W. J. Pidgeon to receive a Certificate of Honour for "Operative Dental Surgery and Therapeutics." He said that these two gentlemen were especially noted for the practical nature of their work, and for the artistic manner in which it was performed.

The CHAIRMAN.—Mr. Rose, I have great pleasure in presenting to you this beautiful book, Lyell's 'Antiquity of Man.' I know no book more interesting in the range of human literature. I hope it will solace you many an evening and comfort you before you go to bed. Mr. Pidgeon, I have pleasure in giving you this certificate for excellence for Operative Dental surgery. (Applause.)

The DEAN presented Mr. T. Mansell and Mr. W. J. Pidgeon to receive a Certificate of Honour for the subject of "Deformities of the Mouth."

The CHAIRMAN.—Mr. Pidgeon, I have the pleasure of handing you this Certificate of Honour for your excellent essay on "Deformities of the Mouth;" and I hand this to you, Mr. Mansell, for a very good essay on the same subject. In handing these certificates to you I would venture to give you one little piece of advice respecting the deformities of the mouth—if I may venture to do so—because there are so many gentlemen who know more about it than I do myself. It is an observation I think you will be glad to avail yourself of. I advise you to go to the Hunterian Museum and look at the preparations on the subject. You will then be able to understand them; and that is not what everybody can do. (Applause.)

Mr. GADDES presented Mr. T. Mansell to receive a Certificate of Honour for "The Elements of Histology." He said it gave him great pleasure to read his paper, and to receive the evidence the paper showed of the diligence which he bestowed on the subject; and he thought he could say with-

out flattery that Mr. Mansell's paper reflected great credit on him (Mr. Gaddes) as a teacher. (Applause.)

The CHAIRMAN.—Mr. Mansell, you now, I think, for the sixth time receive another well-earned honour. It is not everybody who knows what histology is, but it means the minutest anatomy of every portion of the human frame, and this will give you an idea of the question and the inquiry in regard to the work which has been made by Mr. Mansell. (Applause.)

After the prizes had been distributed,

The CHAIRMAN said :—Ladies and gentlemen, my first, my plainest, and my not unpleasing duty, is to scatter broadcast my congratulations. First of all, I have to congratulate the school of the National Dental Hospital and College on the excellent and satisfactory report which has been read to you by the Dean. Even if he had not told us in so many words that the report was satisfactory, we could have judged for ourselves that it was so, and that the school was flourishing, simply by the state of the pupils. They have distinguished themselves so much that unquestionably the school must be in a very efficient state. (Hear, hear.) A school can always be judged by the work done by the pupils. If they do their work well depend upon it the school is in good order. (Applause.) Secondly, I have to congratulate those gentlemen who have earned their prizes. Thirdly, I have to congratulate those who have not earned prizes, because I know very well they have been hard at work—at least I hope so. (Applause.) I know they have been working very hard to earn them, and the work they have done has done no harm, but it is an earnest, perhaps, that next year they will get more prizes. (Applause.) Fourthly, I have to congratulate all those students that so many ladies have come here to witness the interesting ceremony of the distribution of prizes to them. (Cheers and Applause.)

But, ladies and gentlemen, far more than all this, my congratulations to the students are due for the course of study in which they are now engaged. It is a course of study which would be most valuable and advantageous to every man, no matter what his rank or his occupation in life, for it would largely contribute to the intellectual enjoyment and happiness of this life. I think you will all agree with me that there can be no employment more ennobling to the intellect, and more gladdening to the heart, than that of tracing the evidences of design and purpose everywhere visible in creation. (Hear, hear.) Would not the country gentleman enjoy his ride over his estate all the more if he

had some knowledge of botany—some insight into the chemistry of the beautiful husbandry which nature carries on in her fields? Would it be no advantage for him to understand the intricate processes by which “old decays but fosters new creations?” “Bones and ashes feed the golden corn.” Would not those that go down to the sea in ships be wiser and better if they could read the lessons the fowls of the air and the fishes in the sea could teach them of the wisdom and the goodness of God? (Hear hear.) Would they not hear His voice in every wave that claps its hand, and hear His voice in every breeze that blows? Really, gentlemen, I cannot understand how any man can enjoy himself intellectually, or even be said to live in the present day, unless he has some knowledge of natural science. A man who has no knowledge of natural science may be almost said to go blindfold through the world. (Applause.) The steam-engine, what an extraordinary thing it must be to him! The light of gas must be all darkness to him! What must he think of the miraculous effects of chloroform? With what unutterable amazement will he hear the fact that this country and America are connected by an electrical current within speaking distance, and that a few seconds of time are sufficient to transmit, two thousand miles through the waters of the Atlantic, any number of messages he pleases. (Hear hear.) I think, then, gentlemen, that I have said enough to warrant my hearty congratulation to you; and I address myself specially to the students that have made the study of science their constant and kindly friend. I venture to hope that each one of them will contribute something to the general stock of knowledge, if they will, in addition to their immediate daily work, but cultivate some one or other of the collateral sciences. (Applause.) Surely where there is such a variety of choice, they can find one at least to their taste.

Who can tell in what part of the wide world your future path may lead you? You may, perhaps, be placed under circumstances where you will enjoy remarkable opportunities of following out your favourite pursuits. You may be possibly called upon to make some report of the circumstances, not only to observe them carefully, but to make an official careful report to the proper place of them, and I hope, indeed, that all of you will belong to the aristocracy of science, for this is our aristocracy *par excellence*; and I may add that the ranks in this aristocracy have been always largely added to by gentlemen who follow the special branch of the profession to which you belong. (Cheers.) Yes, gentlemen, you must be scientific as well as practical; for I

cannot conceal from you that the mere fact of your being registered as Dental or any other practitioners is not enough to entitle you to the esteem of society unless you possess other qualifications. You cannot hope to hold the position you ought to do unless your attainments are adequate to the demands of a liberal profession, and unless the whole tenor of your conduct be such as befits a Christian gentleman. (Applause.)

You will hereafter be brought in contact with men of all grades; and it will be your own fault if you do not gain their respect and confidence. If, in addition to your regular professional acquirements, you possess some literary attainments, surely no men are better qualified to give tone to society! It must be great pleasure in a patient to find in his doctor an enlightened friend, one who not only does his duty patiently and kindly, but is no stranger to religion and science. Is not the doctor and the professional man appealed to on all occasions, and sometimes when it is least expected? It is recollected of the great Duke of Wellington that on the occasion of his installation as Chancellor of the University of Oxford, he had, according to the usual custom, to make a Latin speech. For once in his life the great Duke found himself at fault. Thinking that his doctor ought to be a good scholar, he asked him to compose one, and fortunately the scholarship of the doctor was equal to the emergency. (Applause.) Now, gentlemen, in due time most of you who are now listening to me will come up for your examinations at the Royal College of Surgeons, in order to obtain your licence to practise. On the way in which you spend the golden days of your student's life depends your future station in the world. They will make you either somebody or nobody. Now, as I have no doubt whatever that you wish to be somebody, I shall just take leave to make a few remarks to you, and they shall be very brief, on what I conceive to be the best way of spending your time, or rather the best spirit in which you should work. The examining bodies have laid down the ground-plan of your education with great judgment, and with due regard to the economy of your time. Most of your time, theoretically at any rate, is spent in attendance on the lectures. Now, even suppose the attendance on the lectures were not compulsory, I advise you to attend them regularly; do not be persuaded that you can learn more by staying at home. True, you can find in books most of what you hear in a lecture; nay, you find a great deal more, for you find a mass of details which are of no practical value to you, and you are not able to determine what is practical knowledge. The sciences of late

years have made such tremendous strides in various directions that if left to yourselves possibly you might take the wrong road, and possibly lose yourselves altogether. The chief aim of a lecturer is to get together the mass of details and put them prominently before you. He arranges and compiles them for you; he brings up to a focus all the light on the subject, and shows you how it bears on the practice of the profession. You should look on the lecturer as your guide, who works quite as hard as you do, and is no less anxious than yourself to go over the ground for you for your advantage. He will make good paths for your feet if you will only walk in them. Therefore, if you meet with a difficulty go to your teacher and ask him to explain it. If it be a simple question do not be afraid to put it; remember they were once all students like yourselves. What the oldest amongst us knows is a mere nothing compared to what he does not know. The teacher who ceases to be a student ceases to learn, and therefore is not a proper person to take the lead. (Applause.)

Now, gentlemen, you must remember that lectures are only intended as helps to you. They are intended to smooth the way in which you are to learn yourselves. You are not to sit there passive and expect to see done for you that which you can only master by doing yourself. You may just as well expect to learn to ride by looking on in Rotten Row, or to be accomplished musicians by listening to the melodious strains we shall listen to this evening. Your mind must be up and doing. Take notes of the subject of the lecture. With the help of these notes write out in the evening all the essential points of the lecture, as far as you can remember them, in your own words. If you are satisfied merely with thinking the lecture over the matter will not stay by you long. Even in the act of thinking you are bound to use words: then why not think upon paper? You will, therefore, give life and duration to your thoughts, and can always direct them hereafter. Every one knows the advantage of reducing his thoughts into writing; it brings him into close quarters with his subject. Language is a powerful instrument in thinking. Again, this practice of writing will prove your composition and style, provided you do your best and keep good company with the books you read. Do this and you will soon learn to write, for it is with composition and style as it is with manners and good breeding: they are taught by example and confirmed by habit. (Applause.)

Well, gentlemen, knowledge we all know is very hard to acquire and very soon slips away; therefore, once a week you must carefully review your work. Read over your notes,

as I used to do when I was a student, again and again ; prove them as you would a problem in Euclid. Sir Edward Sugden, so famous for his learning and eloquence at the bar, was once asked by a friend the secret of his success. He replied in this way : " When I began to read law I resolved to make all the essential knowledge perfectly my own, and never to go to the second point until I fully mastered the first. Many of my competitors," he said, " read as much in a day as I did in a week ; but at the end of twelve months my knowledge was as fresh as it was when it was acquired, while theirs was half forgotten." The principles of all study are the same, no matter what the subject, if it is really to be mastered and grasped so that you can carry it about with you and use it.

I must apologise to you, ladies and gentlemen, for having detained you so long, and I can only say, in conclusion, that I heartily wish the students of this college every success and happiness in the practice of their honorable profession. (Applause.)

Mr. RYMER.—On previous occasions at the distribution of prizes we have been honoured by the presence in the chair of men eminent in science and literature, but this is the first occasion on which we have been honored by the presence of the President of the Royal College of Surgeons of England. (Applause.) It may well be said, without any fear of appearing invidious, that it is the first and most important medical corporation in the world, and, therefore, it is an honour that we should have the head of this corporation present on this occasion. (Applause.) I am sure the students who have received presents from the hands of Mr. Holden will estimate them all the more highly for having so received them. (Applause.) The name of Luther Holden is a name esteemed throughout the scientific world ; even one single work of his would be sufficient to enable him to have his name written on the book of fame. We know that for a long series of years he has contributed important works to science and humanity, and it must be to the students particularly gratifying to receive their prizes from such hands. I ask you without any formality to signify your approval that the best thanks of the college and this meeting be presented to Mr. Luther Holden, for having presided on the present occasion, and for the eloquent and valuable address with which he has favoured us.

The resolution was carried by acclamation.

The CHAIRMAN.—I feel very much, ladies and gentlemen, the compliment you have paid me. I am much obliged to you, Mr. Rymer, for the very flattering words you have

spoken of me. I cannot but say it has given me very great pleasure to be here this evening. I am always glad to be with the students. I am never happier than with the students. I have spent the best years of my life with the students, and I am spending the closing years of my life with the students. It has been to me a source of extreme happiness, and it is only due to them that I should say that they have always shown me the greatest kindness and consideration. They have never behaved to me in a way to which I could take the smallest objection, nor have they ever said to me a word which I could wish unsaid. I feel, ladies and gentlemen, very much the compliment you have paid me to night. (Applause.)

This part of the ceremony having been concluded, the following selection of vocal and instrumental music was performed under the direction of Mr. Charles Davieson, member of the Leipzig Conservatorium.

Trio, 'I Naviganti,' "The Mariners" (Randegger), Miss Mary Russell, Messrs. Vitton and Frank Ward. Song, "Cœur de Lion" (Stark), Mr. Frank Ward. Song, "Rose, softly blooming" (Spohr), Miss Mary Russell. Solo Flute, "Air Varié" (Behm), Mr. Keppel. Song, "The Storm" (Hullah), Madame Talford. Song, "I'll Sing thee Songs of Araby" (Clay), Mr. Vitton. Solo Violoncello—a. 'Romance,' b. 'Mazurka' (Popper), Mr. Gilderoy Scott. New Song, "Ironclad Jack" (Alma Saunders), Mr. Frank Ward (accompanied by the composer). Song, "Eileen Alannah" (J. B. Thomas), Miss Mary Russell. Duett, "The Sailor Sighs" (Balfe), Madame Talford and Mr. Vitton. Song, "Good Night, Beloved" (Balfe), Mr. Vitton. Solo Piano-forte, 'Sonata Pastorale,' 1—2 (Beethoven), Mr. Charles Davieson.

The room was crowded, and the proceedings were quite successful.

British Journal of Mental Science.

LONDON, MAY 15, 1880.

In our last number we published a communication from Mr. G. H. J. Rogers, of Maidstone,* bearing witness to the

* Erroneously printed Manchester.

value of aconitia as an *external* remedy in facial neuralgia. In this connection we would call attention to an excellent article on its internal use by Dr. Oulmont, which was published in 'Le Progrès Medical' in December last, and of which a précis appeared in the March number of the 'Practitioner.' "Aconitia," says Dr. Oulmont, "is perfectly successful in such forms of facial neuralgia as are not correlated with other lesions, which are not intermittent, and which have not a well-marked recurrence,—in other words, in those forms to which M. Gubler has applied the term congestive, and which are most frequently caused by exposure to cold; in such cases aconitia produces a rapid cure within two or three days." Dr. Oulmont has seen a case of facial neuralgia, of seven days' standing, in which there was no marked periodicity, and which had resisted sulphate of quinine, yield instantaneously and permanently to a quarter of a milligramme ($\frac{1}{320}$ th gr.) of nitrate of aconitia. The results, as might be expected, are more marked and rapid in cases of recent neuralgia than in those of long standing, but examples are quoted in which the affection had lasted for periods of one month, two months, and even five years, and which had yet been cured, the first on the seventh day, the second on the third, and the last in three weeks.

Aconitia has also a distinct effect in *secondary* neuralgia of the fifth nerve, as, for example, in that due to dental caries, otitis, &c. In cases which are accompanied by intermittent symptoms and marked periodicity, quinine must be employed in addition to aconitia. It is best to begin by giving three pills daily, each containing one-fifth of a milligramme ($\frac{1}{320}$ gr.) of crystallised aconitia in addition to five centigrammes ($\frac{1}{20}$ gr.) of quinine. If no alleviation of the pain is experienced on the first day, the dose may be cautiously increased, by one pill a day, till a maximum of six in the twenty-four hours is reached. In the majority of cases it will not be necessary to exceed this limit.

Literary Notices and Selections.

THE USE OF GASEOUS FUEL, WITH SPECIAL REFERENCE TO ITS APPLICATION TO LABORATORY FURNACES.

By THOMAS FLETCHER, Esq., F.C.S.

(From the 'Journal of the Society of Arts.')

THE first point to be considered is the special nature of the fuel. It must be understood that my remarks apply, in many points, equally to the ordinary gas, as made from coal, for lighting purposes, and also to air charged with the vapour of the lighter petroleums and other hydrocarbons. When gas is made from coal, a part only of the coal is volatilised and converted into gas. To get an idea of the actual fuel value of ordinary gas, I will take the results as obtained at the Manchester Gas Works, where a mixture of 75 per cent. of cannel and 25 per cent. of ordinary coal is used. From one ton of this mixture the residue is about 13 cwt. of coke, 13 gallons of tar, and 25 gallons of ammonia liquor. The gas produced measures 10,000 cubic feet, which, if reduced to the solid form again, would weigh about 350 lbs. If we calculate this at, say, 1s. 2d. per cwt., which is a liberal allowance for its fuel value, we get the working value of gas as fuel at about 4d. per 1000 cubic feet. The actual cost of the gas as delivered into the mains, including the labour, fuel, and materials used, is about 1s. 1d. or 1s. 2d. per 1000 feet. When these figures are compared with the cost of gas to the consumer, the difference is startling, and the fact is brought pretty forcibly to our minds that we have an excessively costly fuel to deal with.

In actual use, and when burnt with proper attention to details, it is not even so costly as a fuel as coal for work which requires heat on a comparatively small scale and at intervals; in fact, for most of the work to be done in small laboratories, and also for cooking purposes, it has proved itself be a cheaper fuel than coal or coke, owing not only to the fact that every cubic foot of gas burnt may be made to render its full duty, but also when the necessary work is done the expense is instantly stopped.

Gasoline, benzoline, and petroleum, which are hydrocarbons, are all practically the same as coal gas in composition; varying only from each other in the temperature at which they begin to give off inflammable vapour. If we

take them weight for weight with gas, a simple calculation shows them to be worth, as fuel, about $10\frac{1}{2}$ d. per gallon, coal gas being 3s. 6d. per 1000 cubic feet, one gallon being about equal in fuel value to 250 feet of gas.

It must be clearly understood, in referring to the comparative cost of the liquid hydrocarbons, that the value, as compared with coal gas, is only true when they are burnt as gas or vapour. When used as spray with steam, or a cold-air blast, the cost is very greatly increased, owing to the large quantity which is mechanically carried into what is practically a bath of carbonic acid gas, in or at the back of the fire, and which partially or entirely prevents its combustion. The duty obtained in spray furnaces is exceedingly low, and they are—so far as my experience enables me to judge—most costly and wasteful of fuel, unless a hot blast is used, so as to entirely vapourise the liquid before it begins to burn.

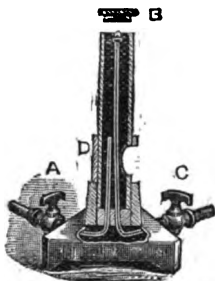
The figures I give are necessarily vague. Gas varies in quality, not only in every town, but also to a limited extent in the same town, from day to day, and any exact figures for one place would not be correct for another. I simply give a rough idea of the fuel we have to do with as regards its practical value. When we consider the cost of gaseous fuel, it becomes of serious importance that the method of burning, so as to obtain a high duty, requires careful study.

So much has already been done that gas, even at its present high price, may be fairly considered a cheap fuel both for workshop and domestic use.

Before saying anything as to the flame to be used in furnace burners, I will explain the material used to retain the heat, and without which I believe it would be impossible to obtain many of the results which I will at the conclusion show you. It certainly would be impossible to obtain them without a very greatly increased consumption of gas. The material of which all the furnace casings you see here to-night are made is produced by a process patented by myself some years ago. It is a mixture of one part of refractory fire-clay or ganister, and from three to six parts of sawdust, the proportions being taken dry by bulk. These are mixed, preferably with rice-flour paste, but water may be used for the heavier varieties, until slightly cohesive, rammed into moulds, and fired in an open kiln, with free access of air, so as to burn the sawdust out. The result is a cellular clay, similar in texture to bread, and which retains the heat so perfectly that I can, in this casing, which is only one inch thick, melt a crucible full of cast iron, and then take the whole in my bare hands and carry it about. It will probably

be better at once to explain the mode of making air gas from benzoline or petroleum spirit, as my future remarks, except, perhaps, for blow-pipe use, will include both air gas made from spirit petroleum, and also coal gas. I find, with my more recent pattern of burners for both draft and blast furnaces, that coal gas and air gas may be used interchangeably, and for many of the more delicate purposes I prefer the air gas, as being free from sulphur. The generator which I now show you contains a layer of spirit petroleum at the bottom. In this the ends of cotton screens stretched on wire are immersed, the spirit is absorbed and carried by capillary action up the cotton, exposing a large surface of spirit to the air which is blown through. To perfectly saturate the air with the vapour, this box is divided lengthways in such a manner that the air passes backwards and forwards four times the length of the box, and in traversing this distance has to pass through thirty-two cotton screens, each about five inches square. A similar arrangement is used by the Sun and Alpha air gas apparatus, these having also a mechanical blowing arrangement. They are, however, excessively costly for furnace work, having complicated and bulky parts, totally unnecessary except for lighting purposes.

Before going further, I must set right one great misconception with regard to the heat obtained from a gas flame. Many people imagine that a Bunsen, or blue smokeless flame, gives a larger quantity of heat than an illuminating flame. This is not the case; if the gas is equally well burnt, the total amount of heat from each is precisely the same, but the heat differs in one most important point in character.



Bunsen Burner, with central blast for obtaining high temperatures without the use of a hot blast.

The radiated heat, *i.e.* that which travels in straight lines in all directions from the flame, and which makes the pleasant feeling of a bright fire, is far greater in quantity

from an illuminating flame than from a blue one. If we want to cook a joint of meat by gas, and get the same satisfactory result as when roasted before an open fire, we use the direct radiated heat from illuminating flames placed over the the meat, and inside the oven. If, without altering anything else, we convert the illuminating flame into a blue one by mixing air with the gas before burning, our cooking is practically at an end; the radiated heat disappears almost entirely, and, to get any result, we must now put the meat over the flame, and bake instead of roasting it. As you see, the hand may be held almost in contact with a non-illuminating flame, obtained by burning a mixture of gas and air. When I stop the air supply, the radiated heat becomes so intense as to be unbearable.

The actual temperature of an illuminating flame is very high, much higher than that of a blue flame; in fact, in a good illuminating flame, at the point where the white part commences, near the centre, it is sometimes possible to fuse an exceedingly fine platinum wire. It is this very high temperature which, to a great extent, causes the radiated heat observed; and, for the same reason, it is useless to expect a satisfactory gas fire made by heating blocks of asbestos with a gas flame until a very much higher temperature flame is used than is the case at present.

When we have a crucible or solid body to heat, radiated heat is not wanted, and the most economical plan, so far so as is known at present, is to use a blue smokeless flame, and to place the body to be heated in actual contact with it. By this means, the heat is rapidly taken up from the flame without the deposition of soot, and without loss of heat by radiation into the surrounding air. We must now consider the fact that all flames under ordinary conditions are hollow and cold inside. I have here a pile of gunpowder, which I will place in the centre of this large and powerful flame. You see that not only will the gunpowder remain unchanged, but the centre of the flame is actually cold. To show this more clearly, I will use a burner with a flame which can be made either solid or hollow. I will first place the gunpowder in the hollow flame and then convert it into a solid one, and thereby ignite the gunpowder.

With care, it is possible to put the hand in the centre of this flame, provided the wrist is protected by wet cloths from the outer film of flame, but it is difficult to prevent scalding by the steam which is formed by the outer film of flame and the wet cloth. The actual temperature in the centre of this flame I have tested by introducing a delicate thermometer, and find it is usually about 110° Fahrenheit. I will also

prove that it is hollow, by conducting the unconsumed gas and air from the centre of the flame by a tube, and igniting it, making, as you see, a second and separate flame, this second flame disappearing when the flame is made solid.

I believe that the honour of being the first to obtain a solid flame is due to Mr. Wallace, of Manchester, whose plan I shall explain presently. He was, in fact, the pioneer of a new revelation with regard to gaseous fuel, and, I am sorry to say, his discovery has not yet obtained the attention it merits from all makers of gas apparatus for heating purposes.

There is one condition, with regard to gaseous fuel, which requires close attention. The vessels to be heated are, as a rule, short and small; the gas must, therefore, be perfectly burnt not later than the instant the flame touches its work, and therefore, for most purposes, a hollow and long flame is comparatively worthless.

To render the combustion more rapid, and to thereby shorten the flame, Gore, of Birmingham, first hit on the expedient of subdividing it into layers, producing a number of narrow flames with air spaces between. By this means he produced a short compound flame, which, with a little assistance from a chimney draught, would fuse cast iron in a crucible.

Following in his steps, Griffin, of London, produced a multitubular burner, virtually the same in effect as Gore's; in fact, a form of burner almost identical with Griffin's is shown on the specification of Gore's patent.

These earlier burners had all one serious fault. If the chimney draught happened to be too great for the quantity of gas available, or if the gas supply was irregular, an excess of air was pulled in and mixed with the gas, rendering the mixture explosive, and causing the burner to, what is commonly called, "light back." To prevent this, Mr. Stanistreet, of Liverpool, placed, as an experiment, a sheet of wire gauze on the top of the tubes, and communicated the result to me. With this arrangement, the gauze was destroyed every time the furnace was used, and to obviate this, I placed the gauze under the tubes, thus making the first high temperature draught furnace burner which would bear sudden changes of the gas supply without an explosion. This burner has now been superseded by another form, which I have recently invented, and which, in principle and arrangement, is totally different. To explain the principle of the new burner, I must go back a little.

Wallace's burner is an upright tube, open at the bottom, with a small gas jet underneath, pointing directly upwards; the top of the tube is covered with a perforated copper cap.

The rush of the gas from the jet carries upwards with it a large quantity of air which, with a gas jet of one exact size, produces an explosive mixture. The perforated cap prevents the flame rushing down the tube, and we have, what we never had before, a solid flame, requiring no external air supply, produced by the quiet burning of an explosive mixture of gas and air. This being the case, we obtain a short flame of very high temperature, which requires no excess of air to ensure perfect combustion, and we, therefore, work so as to get the highest possible duty from our fuel.

Following in the steps of Wallace, I found great inconvenience from the height and size necessary to produce large and powerful flames, but after a long series of experiments, hit on the plan of placing Wallace's injecting jet at one end of an open horizontal tube, leaving the other end open, and enclosed in a tight box, the upper side of which is covered with gauze. With this burner I obtain, as you see, a flame



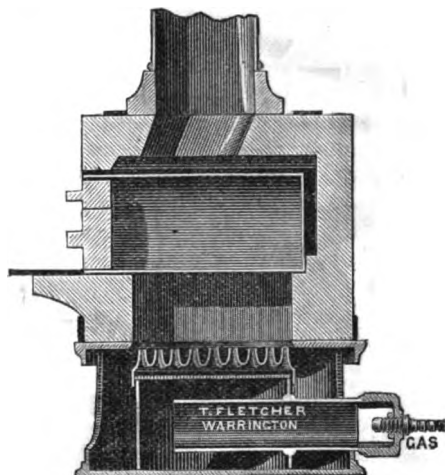
Solid-flame Burner—first experimental pattern modified from Wallace's upright solid flame.



Solid-flame Burner, with gauze-covered box on end of injecting tube.

solid to the centre, in a convenient and simple form. I find from experience that there is no practical limit to the size of burners made on this principle. I have made them 18 inches in diameter on the surface of the gauze, capable of burning in one solid flame a gas supply of 200 cubic feet per hour; I have also made them 4 feet in length for coffee roasters. As this burner requires only an outlet for burnt air, it will work perfectly in very confined spaces, where an ordinary hollow flame burner cannot be kept lighted.

When I use this burner for draught furnaces, I make it with a cast iron grid, to prevent liability of the gauze to get red hot, and to prevent also the peculiar roaring noise caused by a solid flame produced with the assistance of a chimney, and which I shall again refer to; and you here see a few examples of its application for crucible, muffle, and porcelain

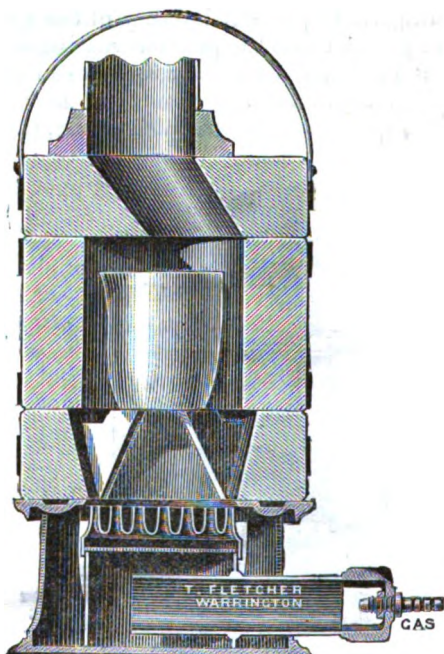


Muffle Furnace, with solid-flame burner, showing the cast-iron grid over the gauze.

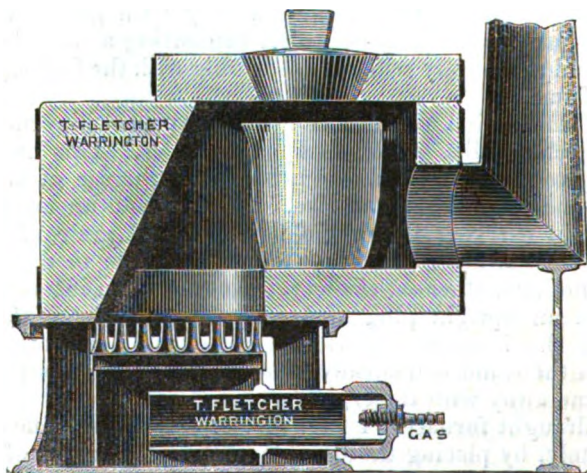
painter's furnaces. One great difficulty with gas crucible furnaces has been a means of safely supporting a crucible, so as to hold it securely without interfering with the full impact of the flame.

Gore, in the first gas furnace made, supported his crucible by projecting ribs inside a taper cylinder. This caused liability to stick fast, and also necessitated the use of crucibles of one exact shape and size. Griffin made an advance on this, by carrying the crucible on a tripod grate of fire-clay. This, although used at present, is liable to damage, and is not altogether satisfactory. Another plan introduced is to fix an upright plug of fire-clay in the centre of the burner; this is, in my experience, worse than Gore's original plan, as the stand is unsteady, and is also liable to stick to and come away with the crucible.

For draught furnaces, I have at last solved this difficulty completely, by placing the crucible on the solid bottom of the furnace, by the side of the burner, and drawing the flame sideways across the crucible, the chimney being placed at



Draught-furnace, with tripod grate, showing the old system of supporting the crucible.



Draught-furnace, with crucible standing on bottom, dispensing with tripod grate.

the opposite side of the burner. This not only completely solves the difficulty, but places the chimney in the best possible position, and exposes the crucible more perfectly to the impact of the flame. I have received to-day a model of a further improvement on this, in which the flame is made to traverse completely round the crucible, thus still further utilising the heat of the flame.

In the blast furnaces, the difficulty of supports is also overcome by placing the crucible on the bottom of the furnace, and inserting the burner at the side. The casings by which the heat is retained are of porous or cellular clay, the process of making which I have already described. All the casings which you see here to-night are made of this material, which I consider one of the most important points, where economy of fuel, speed of working, and great heat are required. Without this cellular clay, the results I obtain could not be approached, except by an enormous increase in the heating power of the burners used.

I do not think it probable, or possible, that really high temperatures will ever be attained in small draught gas furnaces, for several reasons. First, the very large burner surface necessary to make a perfect mixture of gas and air, with sufficient rapidity to burn a large quantity of gas instantly and perfectly, makes the burner liable to damage. It will be found that, with a draught gas furnace, burning in an economical manner, the flame is in absolute contact with the burner surface, a state of things which, curiously enough, does not exist with a blast furnace, where a flame is always at a greater or less distance from the face of the burner. For this reason I should never recommend the use of draught furnaces with long chimneys for very high temperatures, although for such work as the fusion of brass, silver, and gold, the usual routine work of laboratories, and the firing of glass, china, &c., they are perfectly adapted, and if well constructed will give a very high duty for the gas consumed.

(To be continued).

INTERESTING TO INTENDING CANDIDATES.

THE Council of the Royal College of Surgeons had under consideration, in the early part of last year, the question of requiring candidates, who have been so unfortunate as to fail in passing any of their examinations, to pay for the privilege of re-examination, should they desire to undergo that ordeal. It appeared to the Council that as the expense

of each examination is considerable, it would be only just and right that candidates should always pay at least the sum that their examination actually costs the College, instead of having to pay an additional fee only after two consecutive failures, as has been the rule hitherto. And it was thought, moreover, we believe, that the having to pay the cost of every re-examination might not improbably induce gentlemen to be somewhat more chary of presenting themselves for examination before they had a fair assurance of being well prepared, instead of "taking a shot at it," as it is said some of them do nowadays. Anyhow, the Council adopted the "principle" that "candidates who have been rejected at any examination of the College must, on re-examination, pay at least such fees as will cover the expenses of the re-examination;" and a Committee was appointed to consider "the whole question of the payment of fees," and to draw up new regulations relating to payments by candidates for the Membership and Fellowship. The report of this Committee came before the Council at their ordinary meeting in March this year, was discussed, amended, and adopted; and was confirmed, after reconsideration, at the Council-meeting held on last Thursday week. The new regulations are as follows:

For the Primary Examination for the Membership the fee shall be five guineas, or, if it be the re-examination of a previously unsuccessful candidate, three guineas; and the fee shall not be returned to a candidate who fails to pass the examination or re-examination. For the Final Examination or re-examination the fee shall be fifteen guineas, over and above all the charge for stamps; and ten guineas shall be returned to a candidate who fails to pass the examination or re-examination.

The fees to be paid for admission to the Fellowship by examination, over and above all charge for stamps, shall be as follows:—(a) For Members of the College, if succeeding on their first examination, fifteen guineas, but with a liability to higher payment (as hereinafter provided) in cases where re-examination is required; (b) for persons not Members of the College, thirty guineas. Of the above respective amounts one third part shall be paid before admission to the Primary (or Anatomical and Physiological) Examination; and the remaining two thirds, together with the charge for stamps, shall be paid before admission to the *Final Examination*. Of the fee of five guineas, to be paid by Members of the College before they are admitted to the *Primary Examination*, no portion will be returned to unsuccessful candidates; but of the fee of ten guineas, to be paid by persons who are

not Members, half will, in case of rejection, be returned. Of the fee of ten guineas, to be paid by Members of the College before they are admitted to the *Final Examination*, no portion will be returned to unsuccessful candidates ; but of the fee of twenty guineas, to be paid by persons who are not Members, half will, in case of rejection, be returned. And in all cases, any money which has been prepaid as a charge for stamps will be returned to rejected candidates.

Candidates who, having failed at an examination, subsequently desire *re-examination*, are, on each such occasion, subject to the same conditions regarding payment as those on which they were first examined ; except that in all cases previous payments shall be taken into account, and that, if in any case a total payment of thirty guineas for the Fellowship has been made, no further payment shall be required.

To the principle of these rules no one can fairly take exception ; and the fees charged for re-examinations have been settled by strict and careful calculations of the expenses. We hope one effect of the regulations will be to give help to the teachers at the medical schools in preventing men from "going up" before they can fairly hope to succeed in passing. But in addition to other justifications of the changes made, in this respect, in the regulations of the College relating to examinations, it may be assumed that financial considerations have also had some share in deciding or hastening their adoption by the Council. During the last five years the "working expenses" of the College have increased very considerably, viz., from about £4100 to about £5200 a year: so that while, on a general estimate of the total income and expenditure of the College during the last ten years, it appears that (omitting trust funds from the comparison) in the first five years there was an average annual profit of about £500, in the last five years there was an average annual loss of more than £50 ; and this, though there was in the last five years an increase of £500 a year in the income from investments. The increase in "working expenses" has been chiefly due to salaries and wages, printing, repairs, and alterations ; while the Museum expenses have remained nearly stationary, and the Library expenses have increased about £90 a year. It would, of course, be very poor economy to attempt to cut down the expenses of the Museum and Library. On the contrary, still larger sums of money may with advantage be expended on them. And as the increase of expenditure in salaries and wages has been due to "the increasing length and value of the services rendered," it does not seem possible or just to diminish the expenditure thus caused during the lives of the present officers

and servants. But the Committee on Fees calculated that the re-examinations for the Membership cost the College not less than £1200 a year; and, allowing for the number of candidates who will come up better prepared, the Committee considered that one result of the new regulations will be equivalent to a saving of £700 a year. An additional saving, though comparatively a small one, will be effected by the extra payments for re-examinations for the Fellowship; and some further saving by a reduction in the capitation-fee paid to the Court of Examiners for the examinations for the Fellowship, and in the payments to the examiners in Dental surgery. Altogether it is considered that the changes decided on will probably make a total saving of nearly £1000 a year, thereby placing the College in a much more satisfactory position financially. It may be added that the new regulations cannot take effect till they have been approved by one of the Secretaries of State.

Probably very few Members of the College are aware that every member of the Council of the College has to pay a fee of twenty guineas prior to his first admission to the Council; and every person elected to be a member of the Court of Examiners a like fee prior to his first admission. The Committee, in the report which we have been noticing, recommended that these payments should be done away with; but their recommendations on these points were not approved of by the Council.—*Brit. Med. Journ.*

A NEW ANÆSTHETIC.

At a recent meeting of the Edinburgh Odonto-Chirurgical Society, Mr. W. Bowman Maclewe brought under the notice of the members a new combination anæsthetic, which he had been using for some time past with very successful results. It consisted in combining ethylen-dichloride with nitrous oxide gas. The manner of administration consisted in placing a small piece of sponge charged with ethylen-dichloride, retained in position by a clip, within the way-tube or supplementary bag of the nitrous oxide inhaler, leaving sufficient space on each side of the sponge for the free passage of the nitrous oxide into and out of the bag. Only about half a drachm of ethylen-dichloride was required. The time of inhalation to produce anæsthesia measured from sixty to ninety seconds, and the time of complete anæsthesia was from one minute and a half to two minutes and a half, which embraced a period of time sufficient to enable most of the operations

required in Dental Surgery to be comfortably performed. In all the cases in which he had used this anæsthetic, upwards of sixteen in number, there had been a complete absence of sickness, and only one case in which there might be said to have been the slightest approach to stertorous breathing. The pulse was slightly more accelerated than normal, but was full and strong, and there was no lividity, the lips alone, on the removal of the face-piece, presenting in any case, and that only occasionally, the faintest appearance of lividity. It had also this decided benefit over the single administration, that it produced a relaxation of the muscles, contrary to the almost spasmodic rigidity induced by nitrous oxide.—*Brit. Med. Journ.*

SIR,—In your last number mention is made of a new anæsthetic, described as a combination of nitrous oxide gas and ethylen-dichloride, and introduced in Edinburgh by Mr. Macleve.

I have not used the ethylen-dichloride; but I suspect that the substance alluded to is ethidene dichloride, and I have been giving this with laughing-gas for the last fifteen months to more than a thousand cases in hospital and private practice. On the whole, I think ethidene dichloride a better anæsthetic than ether or chloroform, and can confirm all that Mr. Macleve says of it; but I have found that, when given beyond a certain strength, it causes vomiting and depression of the heart's action; and I fear that the plan recommended of pouring it on a sponge in the tube or supplemental bag, without the means of regulating the strength of the vapour, will produce ere long results less satisfactory. It will be found that half a drachm is not always sufficient; and, if a larger quantity be used and it runs through into the inhaler, the dose may be made strong enough to produce serious results. Chloroform applied in the same way would answer very well in the majority of cases; but in an exceptional one it would yield the vapour too abundantly for safety.

I have found a small-sized gas and ether inhaler answer my purpose, but I have no doubt the portable regulating ether inhaler, charged with about two thirds of the usual supply of ether, would do equally well. In all cases of ethidene-inhaling, the pulse should be watched as well as the breathing.—I am, &c., J. T. CLOVER.—*Brit. Med. Journ.*

AMONG the plants in flower in the Isle of Wight a correspondent to the 'Pharmaceutical Journal' mentions the
VOL. XXIII.

curious root parasite, *Lathræa squamaria*, remarkable for the absence of chlorophyll in its leafless stems, and for its singular, branched, tooth-like roots, to which, following the doctrine of signatures, the old herbalists attributed the property of curing toothache. From the appearance of its root it has received its English name of toothwort and its more appropriate German name of scale-root (*schuppenwurz*). The French name is a singular one, "*clandestine*." From the genus *Orobanche*, to which it is closely allied, it is distinguished by having a four-toothed calyx. The yellow bark of the berberry is still used by herbalists in jaundice. The comfrey root is used to make a mucilaginous demulcent drink, and by bone-setters to form a plaster-like splint; hence its old name of "*consolida major*" or "*great consound*."

AN IMPROVED NITRATE OF SILVER CAUSTIC.—Dr. Sawotizki called the attention of the Moscow Surgical Society to an improvement in the preparation of sticks of nitrate of silver. It consists in melting together five parts of nitrate of silver with one part of nitrate of lead, forming an *argentum plumbo-nitricum*. Sticks formed of this are preferable to those of the ordinary nitrate, as they are not easily broken and can be pointed just like a lead pencil.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

ORDINARY MONTHLY MEETING, MAY 3RD, 1880.

ALFRED J. WOODHOUSE, Esq., President, in the Chair.

THE PRESIDENT announced that the following gentlemen had been proposed for election, and would be balloted for at a subsequent meeting, viz. Mr. Gurnell E. Hammond, L.D.S. Eng., of Leinster Square, Bayswater, as a resident member, and Messrs. Wm. Paxton Harding, L.D.S. Ireland, of Bronala, Carnarvon, and Thos. S. Carter, L.S.D. Eng., of Park Square, Leeds, as non-resident members.

Dr. WALKER then read a note from Mr. Oakley Coles withdrawing some remarks which he had made at the pre-

vious meeting in the course of the discussion on "Dental Irritation as a Cause of Epilepsy." He had since heard that the patient on whom he had operated, and who had been sent to him by Dr. Ferrier, though relieved from the one anticipated fit, had since relapsed, and that the fits were now as bad as ever. It was, then, evidently a case of epilepsy *with* dental irritation, but not dependent on it; hence the criticism which he had made on Dr. Ferrier's letter fell to the ground, and he desired to withdraw it.

Mr. SEWILL thought it was only just to Dr. Ferrier that this statement should be published. Dr. Ferrier had never made the suggestion which he was stated to have made as to the probable effect of removing the teeth, and it was not a fact that the patient had been cured by the operation, she was now as bad as she had ever been.

The PRESIDENT announced that Mr. F. Canton had presented to the museum the jaw of a cat affected with cystic disease.

The SECRETARY read a communication from Mr. Tod, of Brighton, who had sent a model of the upper jaw of a young lady, aged twenty-two, whose teeth had been regulated in her youth, the left upper canine having been removed with excellent results. More recently Mr. Tod had also removed the right canine. Mr. Tod called attention to an extra molar on the right side; it was quite firm, and level with the other teeth, and its colour and general appearance were unlike those of a persistent temporary tooth, though in some respects it resembled one; he believed it to be a supplementary molar.

Mr. G. H. HARDING made a communication respecting the use of gutta-percha fillings. He had often met with considerable difficulty in inserting these fillings in proximal cavities in front teeth. The first filling was easily inserted, but when the second was undertaken the hot gutta percha and the hot instruments were apt to stick to the first filling, and would sometimes entirely displace it. To obviate this he had formerly covered the surface of the first filling with a piece of lead foil. Now he adopted a still simpler plan, viz. to fasten a strip of gummed paper, ordinary stamp edging would do, over the first filling, the strip being long enough to cover the lingual and labial surfaces of the adjoining teeth. When the second cavity has been filled and finished off the paper was easily removed by passing a little damp cotton wool over it.

Mr. Harding also showed a model of the following curious case of irregularity. One of the deciduous molars had remained persistent, but this had not prevented the eruption

of the bicuspid, which had taken up their places one on each side of the temporary tooth. The fact that the bicuspid was generally supposed to vertically displace its predecessor rendered the case interesting.

Mr. HENRY MOON showed a regulation plate invented by Mr. Williams, of Leamington, which he had found to act very satisfactorily. The point to which the teeth were to be brought back could be accurately fixed, so that no harm could result from the plate being worn for a considerable time without any professional supervision, and very few visits were therefore required.

Mr. VANDERPANT showed, for Mr. Crapper, of Hanley, a specimen of osseous union and transposition of two teeth. A young woman, twenty-two years of age, came to him complaining of great pain on the left side of the lower jaw. On examining the mouth, Mr. Crapper found what he believed to be a badly-decayed wisdom tooth, which he at once proceeded to extract; when, to his surprise, another tooth came away with it. On inspection he found that what he had supposed to be the wisdom tooth was the second molar, and that the real wisdom tooth was in front, but firmly united to the other by osseous union.

The PRESIDENT said he thought Mr. Crapper was mistaken as to the transposition, and that his first view of the case was the correct one.

Mr. VANDERPANT also showed for Mr. Crapper a lower plate encrusted with a large mass of salivary calculus. The plate had been continuously worn for nearly five years, and, notwithstanding the bulk of the deposit, the patient appeared to have suffered very little inconvenience.

Mr. CRAPPER had also sent for exhibition a curious old plate made more than a hundred years ago, a celluloid plate made by Best's process, some cases of continuous gum work, &c.

Mr. VANDERPANT and Mr. S. J. HUTCHINSON showed plates encrusted with salivary calculus. In Mr. Hutchinson's case, the plate had not been removed from the mouth for four years.

The PRESIDENT then called upon Mr. Arthur Underwood to read the paper of the evening on "Nerve-stretching in Neuralgia."

Mr. UNDERWOOD said that having been occupied for some time in studying the subject of Neuralgia, he had found recorded in various medical publications, numerous cases in which, after every other remedy had been tried and had failed, a cure had been effected by nerve-stretching. Cases thus isolated amongst other matter and published

singly at irregular intervals, produced a much less forcible impression on the mind than they did when collected together and considered in mass. For this reason, and also because it took a long time for such cases to make their influence felt through the current text-books, he had thought it worth while to make this operation the subject of a communication to the Society.

A great variety of causes might bring about facial neuralgia, such as a carious tooth, a piece of dead bone, an abscess, lead-poisoning, chlorosis, rheumatism, and syphilis; neuralgia itself was in fact only a symptom, due to some form of nerve irritation. And the neuralgia produced by any of these causes might vary greatly in degree, from the common form which yielded readily to the extraction of an offending tooth, or to the administration of one of the ordinary remedies, up to the rapid and resistless form of attack which had been characterized by Trousseau as "epileptiform," and of which he said that "it resists with a disheartening obstinacy all therapeutic measures, so much so indeed that even now, after more than thirty-six years of practice, I have never known it to be cured in a single case radically." After such an uncompromisingly unfavourable prognosis from such an authority, it was no small evidence in favour of the operation to which he desired to call their attention to find that the disease in its most aggravated form had been radically cured by nerve-stretching. Until this mode of treatment was accidentally discovered in 1869 by Nussbaum, the only remedy for these severe cases consisted in division of the nerve, an operation which afforded too often only temporary relief, as the morbid condition remained unaltered, ready to display its terrible phenomena as soon as the nerve had united.

Mr. UNDERWOOD then related three typical cases of epileptiform neuralgia. In the first case drugs only had been tried ineffectually; in the second, division of nerves gave temporary relief; while in the third case nerve-stretching at once effected a permanent cure.

The first case occurred in his father's practice. A gentleman, about forty years of age, a captain in the army, came to him complaining of the most agonizing attacks of neuralgia, which recurred with the utmost regularity every five minutes both night and day. For ten years he had been subject to this fearful torment; he had consulted every medical authority in Europe, and had taken every reputed remedy without the slightest effect. He had scarcely sat down in the operating chair when he sprang up as if electrified; his face became deeply flushed, a profuse perspi-

ration poured out from every pore of his skin, his teeth were clenched together, and he convulsively swept his hand over his forehead, uttering a subdued groan, which ended in a deep sigh of relief. The paroxysm was over; it had lasted a few seconds only, but its short presence had been terrible enough.

The second case was related by Trousseau. The patient had for many years been subject to the convulsive form of neuralgia. The paroxysms lasted sometimes only a few seconds, sometimes a minute; and they recurred whenever he ate, spoke, or drank, or whenever any one touched with the tip of the finger any of the few teeth he had left. The pain was seated in all the branches of the trifacial nerve of one side, but chiefly in the infra-orbital division. Several of the nerve trunks had been divided already, but the relief had been only temporary, the pain always returning after an interval of from a few weeks to a few months. The extraction of his last remaining teeth did no good, but the division of the infra-orbital nerve gave him immediate relief, and he remained free from pain for several months. But about a year later he returned, suffering in the same way, and several nerves were divided. He was then lost sight of for thirty years, when he was admitted into La Pitié with the same symptoms. The poor man's face was now much scarred from the surgical operations he had undergone, for whenever the pain became unbearable he implored the help of some surgeon, and thus obtained relief for some days or even for a few months.

The third case was reported by Dr. Grainger Stewart. The patient was a station-master, of temperate habits, seventy years of age. The occupation involved a considerable amount of exposure to the weather, still he had enjoyed good health until he was fifty-three years of age, when he began to suffer from facial neuralgia. Once established, the disease gradually increased in severity, and the intervals between the attacks became shorter. Dr. Stewart described the paroxysms as follows:—"The patient's face would suddenly change; twitching of the muscles of the right side of the face set in, giving rise to the strangest grimaces; the agony began simultaneously with the movement, and was most intense in the lines of distribution of the middle branch of the fifth nerve on the right side. The patient would seize his head with his hands and press the painful part with the utmost violence, drive his knuckles into the space beneath the malar bone, slap his face, tear his hair, and twist his body in all directions, and sometimes lost all control and shout in his agony. This would continue for a

few seconds or perhaps a minute or two, when all the symptoms would subside. The paroxysm might occur again almost directly, or not for hours; generally they were most severe in the evening or during the night. They were easily induced by touching the skin or pulling the hair on any part of the area of distribution of the affected nerve, or by touching the gums or tongue. Mastication had thus become impossible, all food had to be taken in a liquid form, and no effort was spared, by the use of tubes, or other contrivances, to smuggle it past the sensitive region. Nine teeth had been extracted in the hope of obtaining relief, but without benefit, and a long list of drugs had been tried. Dr. Stewart first stretched the infra-orbital nerve at the foramen, and the operation was followed by a month's immunity. The paroxysms then returned, but the seat of the pain seemed to be transferred to the mental foramen. The mental branch was cut down upon and stretched, and the patient had not suffered a twinge of pain since.

Mr. Underwood had found thirty-nine cases of nerve-stretching recorded during the last two or three years in various papers and pamphlets; of these, fourteen were done for facial neuralgia, twelve for tetanus, ten for sciatica, and three for neuralgia of the arm. Of these, thirty-two were complete and permanent cures, and two more were relieved from pain, but died from accidental causes. In the remaining five cases, the operation was performed for tetanus, and in four of these the disease was abated and life prolonged for some days. In no instance, so far as Mr. Underwood could ascertain, had any harm been done by this operation, whilst neurotomy was generally attended by more or less unpleasant results, viz. by paralysis consequent on the division of a mixed nerve, and in any case by loss of sensation until the nerve had reunited, and then in all probability the pain would also return. Then sometimes the contraction of the cicatrix would press upon the nerve and cause a fresh neuralgia worse than the former.

As to the *rationale* of the treatment, it was impossible at present to give any decided opinion. The pathology of neuralgia itself was still so obscure that we did not really understand what it was which we had to cure, much less than how we did it. Until more could be learned on this subject, we could only judge of the value of methods of treatment by their results; and from this practical point of view there could be no doubt that nerve-stretching was entitled to rank very high as a last resource in those rebellious cases in which all reputed drugs had failed, and life had become a burden to the sufferer.

Mr. Blum, in an interesting memoir upon this subject, in the January and February numbers of the 'Archives Générales de Médecine,' for 1878, thus tabulated the circumstances under which nerve-stretching is called for or is justifiable.

1. In neuralgia that resists therapeutic treatment, and is limited to a certain nervous tract.

2. When the neighbouring nerves show a tendency to become implicated.

3. In neuralgia of traumatic origin, especially when there is reason to suspect the existence of cicatricial adhesions between the nerve and the surrounding tissues.

4. In neuralgia affecting stumps.

In his *résumé*, M. Blum states that the efficacy of the operation is due principally to the modification which it brings about in the structure of the nerves, and above all in the circulation, not only at the spot where the stretching is done, but even at points more or less distant.

The value of the operation was discovered by a curious accident. In 1869 Nussbaum was operating for excision of the elbow-joint. The patient had been suffering from permanent contraction of the little and ring fingers on the side about to be operated on. During the operation an assistant was directed to keep the ulnar nerve out of danger by protecting it with a spatula. From some accidental cause, the patient's arm was suddenly jerked, causing a violent wrench to the ulnar nerve. The accident was scarcely noticed at the time, but when, after recovery from chloroform, it was observed that the contraction had disappeared and did not return, the operator's attention was drawn to the fact, and he was led to try the effect of a similar wrench in other cases with a like result. After this the operation was performed by Billroth, Callender, Lister, and others, for sciatica, tetanus, epilepsy, and neuralgia, and the success that attended these experiments soon established the operation as a recognised procedure in surgery. With reference to the figures he had given, he could have greatly increased the number of cases in which the operation had been performed, but he had found it necessary to confine his search to the last three years. But it must be remembered that the cases which he had referred to had all been severe ones, in which all sorts of treatment had been previously tried. Considering these facts, he thought the results spoke strongly in favour of the operation.

In conclusion he requested those present to relate their personal experience on the subject of neuralgia, especially with reference to this operation.

Mr. COLEMAN said he could call to mind many cases in his own practice in which he had little doubt that this operation would have done good. He had noticed in several of these cases that the extraction of a tooth was generally followed by temporary immunity from pain. He had supposed that this was due to the effect of the shock of the operation on the nerve, but he would now suggest that it might be partly owing to the stretching of the small branches to the fangs, which took place at the moment of extraction. He should have been glad if Mr. Underwood had given a fuller account of the operation itself, especially as to the precautions to be observed in dealing with such nerves as the small branches of the facial.

Mr. CHARLES TOMES said that his experience of nerve-stretching had not been very favorable, and in the case of the inferior dental nerve he believed that the anatomy of the parts furnished a sufficient explanation of the failure. Just at its exit from the canal the nerve made a sudden turn upwards and outwards, and was, moreover, pretty firmly attached to the bone by fibrous tissue; it was, therefore, almost impossible to stretch it effectually. Division of the nerve at the mental foramen frequently gave only temporary relief, and in future he should be inclined to perform the operation which had been proposed and carried out by Dr. Hodgen, of St. Louis, viz. to expose the nerve in its canal, and to remove a good length of it. The loss of this nerve seemed to cause very little inconvenience. He had met with two cases in which the nerve had been destroyed by syphilitic disease, and the patients did not complain of any inconvenience whatever.

Mr. SEWILL said he could not agree with Mr. Tomes that the loss of the inferior dental nerve caused no inconvenience. He had been consulted by a gentleman for this very reason; he complained that he was constantly biting his lips, but, owing to the loss of sensation, he did not know when he did it until swelling resulted, which seriously interfered with mastication. Although he had heard of cases in which nerve-stretching had failed to do good, he had not yet heard of a case in which the operation had done any harm, and he thought, therefore, that it should always be tried in any really obstinate case of neuralgia.

Mr. ENGLISH, of Birmingham, said he had known patients to complain seriously of the inconvenience caused by loss of sensation in the parts supplied by the inferior dental nerve, and he thought that this placed the cutting operation at a disadvantage as compared with the stretching.

Mr. HUTCHINSON remarked that, according to his experi-

ence, the chief seat of the pain in cases of facial neuralgia was much more often referred to a spot near the angle of the jaw or about the eye than to the region supplied by the terminal branches of the inferior dental nerve. In the very common case of the pain being seated near the angle of the jaw, what part of the nerve should be stretched?

Dr. BLAUVELT, of New York, said he had assisted at several operations of the kind in America. Of four cases of nerve-stretching, the particulars of which he could then remember, three were quite successful. The fourth, a bad case of sciatica, was operated upon twice, but without any good result on either occasion.

Mr. UNDERWOOD, in reply, said that one cause of failure was excess of caution. Nerves were exceedingly tough, and it was important that a sufficient amount of force should be used to make sure of a successful result; the nerve also should not be pulled in one direction only, but in several, so as thoroughly to loosen its fibrous connections.

It was difficult from the published records to judge of the relative value of stretching and of the division of nerves, but he thought that the loss of sensation which must follow the last operation must always cause more or less inconvenience, and that, therefore, stretching should be tried first and section kept as a last resource.

In answer to Mr. Hutchinson, he might say that the facial nerve was always stretched at its exit from one of the foramina, and good results might follow, even though the pain might be referred to a point higher up.

A vote of thanks was then given to Mr. Underwood and to the other members who had contributed specimens, &c., during the evening, and the meeting terminated.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

ORDINARY MEETING, APRIL 21st, 1880.

W. A. N. CATTLIN, F.R.C.S., President, in the Chair.

MR. CHRISTOPHER HEATH showed a patient (a woman), aged forty-four, who had been under his care for cystic disease of the lower jaw in University College Hospital in 1875, as bearing upon the case he was about to relate. Mr. Heath then narrated a "Thirty-five Years' History of a Maxillary Tumour." The patient, aged sixty-seven, when

he first came under his notice in 1877, was a healthy country gentleman, who said that as long as he could remember there had been some enlargement of the right side of the lower jaw. In 1845 this enlargement increased very rapidly, and in 1847 Sir Wm. Fergusson removed a tumour of the right side, sawing through the ramus horizontally and the body of the jaw close to the right canine tooth. The tumour was apparently of a fibroid character, having a large cyst developed in it. He continued in good health for fifteen years, and then noticed the formation of a cyst in the incisor region, which had frequently been tapped by Sir Wm. Fergusson. In July, 1877, Mr. Heath found cystic disease of the left side of the body of the jaw extending to the molar region, and operated by extracting all the teeth, opening up the cysts freely, and clearing out some solid growth with the gouge. From this the patient made a good recovery, with considerable consolidation of the bone, but in the November following one cyst was found to have developed anew in the incisor region, and this was treated in a similar manner. A year later a fresh development of cysts had taken place and the operation was repeated with a good result, so that in February, 1879, the jaw was completely consolidated, and the patient was advised to have some artificial teeth fitted. In November, 1879, the patient reappeared with a large solid tumour, involving the left side of the body of the jaw, which, noticed first in June, had grown rapidly of late, and now involved the skin for an area of a square inch. On December 2nd Mr. Heath removed the tumour by sawing through the bone immediately in front of the left masseter, and also removed a piece of infiltrated skin from the left of the median line. The wound was brought together with harelip-pins and sutures, and only one artery (facial) was ligatured. The patient made a good recovery, took food with a spoon, and was able to talk intelligibly after the first week, although deprived now of the entire body of the jaw. The lower end of the wound being left open afforded a thorough drain for discharge. The patient returned early in February, when the skin near the wound was found to be increasingly infiltrated, and a tumour of the size of an orange was found beneath the right deltoid. He had strained the right arm in getting into a hip-bath, but was quite clear that the humerus had not been struck. The tumour was painful, but the bone was sound, the head moving with the shaft. A week later the patient was found to have a tumour in the pelvis, pressing upon the rectum, and springing from the interior of the right innominate bone. From this time he gradually lost strength, and died at the

end of March. The second tumour was pronounced by Mr. Doran to be a round-celled sarcoma, and the same growth was found in the piece of skin which was removed. The earlier tumour appeared to be a fibroid or a spindle-celled sarcoma. No post-mortem examination of the internal growths could be obtained. Mr. Heath remarked upon the great interest of the case, and its important bearing on the treatment of cystic disease of the lower jaw. Hitherto cystic disease of the lower jaw had been regarded as a local ailment, and the treatment by clearing out the cysts, and crushing in their walls, had given good results. In this case more than thirty years had elapsed between the formation of the two growths, and in the interval cystic disease had been largely developed. Mr. Heath then alluded to the female patient he had previously shown, who had been under his care for the last five years, and in whom he had twice operated by breaking down the cysts with good results, but in whom there was now considerable thickening of the jaw, but no distinct tumour.

The PRESIDENT said the case just described by Mr. Heath was, he thought, an example of specific disease. There were three distinct cysts and considerable deposit of solid matter, and its malignant character was shown and proved by metastasis to the pelvis. With the exception of dentigerous cysts, the most common form of disease of the lower jaw was a single cyst, which expanded the walls and produced absorption. Such growths were generally innocent.

Mr. S. CARTWRIGHT was inclined to think that cystic tumours more often had their origin in the teeth than was generally supposed, the peculiar connection of the teeth with the jaw favouring this hypothesis. In many cases the cysts were probably congenital, and formed in connection with the primitive sac of the tooth.

Mr. HAMILTON CARTWRIGHT said that the character of the tumour Mr. Heath had just described was evidently not of the odontomatous or dentigerous kind. He believed that such growths were of dental origin, subacute, not acute, inflammation of the root being the first origin of the evil.

Mr. NAPIER brought forward the models of an Irregularity in the Position of the Right Upper Central Incisor in a child aged six and a half years, and asked the opinion of the Fellows respecting the advisability of torsion at so early an age.

Dr. M'OSCAR showed the cast of a case of epulis, which was virtually cured after a few weeks' treatment by electrolysis, although continued occasionally for months. The case has remained as a cure.

The PRESIDENT proposed a special vote of thanks to Mr. Christopher Heath for the very interesting cases he had brought before the association.—*Lancet*.

MIDLAND COUNTIES BRANCH OF THE BRITISH
DENTAL ASSOCIATION.

On Wednesday, May 5th, a meeting of members of the British Dental Association, residing in the Midland district, was held at the Trevelyan Hotel, Manchester. The meeting had been convened by announcement in the 'Monthly Review of Dental Surgery,' April 15th, and also by circular signed by W. H. Waite, a copy of which was published in the 'British Journal of Dental Science,' May 1st, p. 457, and was as follows:

"MIDLAND COUNTIES DENTAL ASSOCIATION.

"At a meeting of Dentists held at the Queen's Hotel, Manchester, January 24th, 1880, it was decided 'That a Midland Counties Dental Association should be formed, and fourteen gentlemen were elected to act as council *pro tem*, to draft bye-laws, nominate officers, and prepare details to be submitted to a general meeting of Dentists, to be held at a future date, public notice of same to be duly given, and Mr. W. H. Waite, of Liverpool, was appointed convenor.' In conformity with the above resolution, proposed by Mr. Rolff King, of Shrewsbury, and seconded by Mr. Manton, of Wakefield, a general meeting of Dentists will be held at the Trevelyan Hotel, Corporation Street, Manchester, on May 5th, 1880, at 4 p.m. All registered Dentists who are interested in the welfare of their profession are solicited to attend.

"*Business*.—To receive and consider bye-laws. To appoint officers. To enrol members. To consider if desirable for the Midland Counties Dental Association to become a branch of the British Dental Association."

There were present—H. Campion, Esq. (Manchester), in the Chair; Messrs. W. Cheney, W. Dykes, J. M. Kelly, W. Kelly, L. Matheson (Manchester); J. Dilcock, D. Dopson, J. R. Goepel, W. J. Newman, J. G. Roberts, W. H. Waite (Liverpool); E. Ball (Buxton); J. Buckley (Hollinwood); J. S. Crapper (Hanley); Rolff King (Shrewsbury); J. H. Kyan (Preston); J. Mahonie (Sheffield); J. N. Manton (Wakefield); W. Margetson (Dewsbury); J. Murphy (Bolton); W. H. Nicol (Leeds); J. Renshaw (Rochdale); F. Richardson (Derby); W. H. Ridge (Stafford); A. W. Whit-

tingham (Hanley); D. A. Wormald (Bury); S. Wormald (Stockport), and some others.

The CHAIRMAN announced that this was a business meeting, summoned for the purpose of receiving a report from the Provisional Council, elected by the January meeting, and he therefore called upon the Secretary to read the report.

The SECRETARY then read as follows :

At a meeting held on January 24th a resolution was passed electing certain gentlemen as a council "to draft bye-laws, nominate officers, and prepare details for a general meeting." In accordance with that resolution the Council have met twice, and endeavoured to the best of their ability to fulfil the duties entrusted to them. They have drawn up a provisional set of bye-laws on the basis of the bye-laws of the British Dental Association and the Western Counties Association; these have been examined (unofficially) by several of the leading members of the British Dental Association, and received their approval; they will, however, require confirmation by a general meeting of the British Dental Association. It is thought that the central association may be greatly strengthened by the formation of local branches, both by reason of the moral support it will receive from them, and by the continual addition of new members which it is hoped the branches will bring to the central association. In order to further the increase of members the Council propose, and have made provision for, the election of gentlemen who are not members of the British Dental Association, as associates of the branch; who shall pay a subscription to, and be entitled to all the privileges of the branch, but not to vote, nor hold office therein, and they hope that in this way some may be induced to become members of the central association.

As it was decided that the Midland Counties Association should be a branch of the British Dental Association, your Council felt that they were only at liberty to invite to this meeting those who already are members of the British Dental Association, and they therefore suggest the desirability of inviting by circular all Dentists who reside in the district, and whose names are on the Register, to become associates of the Midland branch.

Since the annual meeting of the British Dental Association will probably be held about August, the Council think it advisable that the branch meeting should take place in the spring, so as to allow as long an interval as possible between the two. As, however, it seems undesirable that twelve months should elapse between the formation of the branch and its first general meeting, they propose to take

the opinion of those present as to the wisdom of holding the first ordinary meeting in the autumn of the present year, after the annual meeting of the central association.

The following resolutions were carried unanimously.

Proposed by A. W. WHITTINGHAM, Esq., seconded by J. G. ROBERTS, Esq., "That the report now presented be received."

The CHAIRMAN stated that the next business was to consider the proposed bye-laws, and he called on the Secretary to read them.

This having been done,

It was then proposed by J. M. KELLY, Esq., and seconded by J. S. CRAPPER, Esq., "That the Midland Counties Branch of the British Dental Association be hereby constituted, and that the bye-laws just read be approved, subject to final confirmation at the general meeting of the British Dental Association."

Proposed by J. R. GOEPPEL, Esq., seconded by J. DILCOCK, Esq., "That the following gentlemen be the officers and council for the ensuing year, viz.:

President.—H. Campion, Esq. (Manchester).

Treasurer.—S. Wormald, Esq. (Stockport).

Secretary.—W. H. Waite, Esq. (Liverpool).

Council.—R. S. Stewart (Liverpool), W. H. Nicol (Leeds), J. N. Manton (Wakefield), J. H. Kyan (Preston), J. Mahonie (Sheffield), F. Richardson (Derby), Rolff King (Shrewsbury), J. Murphy (Bolton), W. J. O'Hara (Leicester), J. Renshaw (Rochdale), D. A. Wormald (Bury), A. W. Whittingham (Hanley)."

Proposed by D. A. WORMALD, Esq., seconded by F. RICHARDSON, Esq., "That the annual meeting be fixed for the last Wednesday in April."

Proposed by ROLFF KING, Esq., seconded by S. WORMALD, Esq., "That, as it is undesirable to wait twelve months for the first meeting, a special ordinary meeting be held in the first week of October, or as soon after the general meeting of the British Dental Association as the Council may decide, notice to be given of the date and place to all members and associates."

This concluded the actual business of the meeting, and the Secretary at once proceeded to enrol members, about twenty-six gentlemen giving in their names.

A general feeling of deep regret was expressed that several gentlemen, not members of the British Dental Association, had been induced to present themselves at the meeting through the issue of an anonymous circular. The meeting in January having appointed W. H. Waite as convener of

the next meeting, it will be seen that no circular or invitation could be authentic without his signature. The official invitation to this meeting was, of necessity, confined to members of the British Dental Association, because no branch could be legally constituted except by those who had already joined the central association.

A cordial vote of thanks to the Chairman brought the proceedings to a close. W. H. WAITE, *Hon. Sec.*

Miscellanea.

ON PASSING EVENTS.

By "PHOSPHOR."

THE DENTAL PROFESSION AS AFFECTED BY THE DENTAL PRACTITIONERS ACT OF 1878.

UNDER this title Mr. Frank Richardson, of Derby, has written a pamphlet which, as he tells us, is intended "to lay before the public a plain statement of facts bearing upon the past, present, and future of the Dental profession." The object in view must meet with the approbation of every respectable member of the profession, and no one can find fault with the manner in which the task has been accomplished. The writer very clearly passes in review the education required by the General Medical Council to fit students to pass the examination required to obtain the Dental diploma. He laments that so many unqualified men should have been allowed to enter their names on the Register, and he shows that we have amongst us a class who assume the title of Surgeon-Dentist, playing upon the credulity of the public, and fraudulently following their calling, being thoroughly unacquainted with its requirements. All this has been tersely brought forward, and may be read by those unacquainted with Dental ethics at the present day with advantage. One important oversight, however, in my opinion, frustrates the aim of the author. He attaches to this pamphlet his name and address. Many attempts have been made to expose the proceedings of these quacks, notably, a letter to a London newspaper, called "The Dental Profession," and "Vernon Galbray," but both these authors have tried to do good anonymously, avoiding the charge of exalting themselves at the expense

of an inferior class. I will not for one moment doubt that Mr. Richardson's object is a laudable one, but I would advise him in his "smaller edition intended for presentation" to leave out his name. I would also take the liberty of reminding him that L.D.S.R.C.S.I. does not mean Licentiate in Dental Surgery, Royal College of Surgeons. From the earliest period of the English College's existence that body has been called *the* Royal College of Surgeons, and wherever the letters R.C.S. appear they are supposed to betoken the English title. All other degrees have a letter to distinguish them from the elder institution. As I have observed, these little matters are calculated to impair the value of a modest and otherwise useful pamphlet wanted at the present day and calculated to do much good.

PRATT FUND.

WE have much pleasure in publishing the subjoined list of subscriptions for this fund sent to us by John A. Gartley, Esq., of 5, Sackville Street, W., to whom all contributions should be sent.

Amounts received and promised up to May 8th:

	£	s.	d.		£	s.	d.
E. Saunders, Esq. .	5	5	0	A. Cronin, Esq. .	1	1	0
A. Woodhouse, Esq. .	5	5	0	J. Parkinson, Esq. .	2	2	0
J. O. Coles, Esq. .	5	0	0	W. Gregory, Esq. .	0	5	0
J. Stocken, Esq. .	0	10	6	W. Forsyth, Esq. .	3	3	0
— Payne, Esq. .	0	10	6	Messrs. Bennett .	1	1	0

Subscriptions have also been promised from J. Sheffield, Esq., R. Bradshaw, Esq., J. Faulkner, Esq., and — Petty, Esq.

ALFRED COLEMAN, Esq., F.R.C.S., L.D.S. Eng., &c.

WE understand that Mr. Alfred Coleman, one of the recently appointed editors of the 'Monthly Review,' has resigned his connection with the Association of Surgeons Practising Dentistry, with which he has been so intimately associated from its first foundation.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following gentlemen passed their first professional examination during the recent examinations for the licence in Dental surgery:—James Stewart (Perth), James Stewart

Derward (Edinburgh). Both gentlemen are students of the Edinburgh Dental Hospital and School.

EDINBURGH SCHOOL OF DENTISTRY.

THE summer session of the Edinburgh School of Dentistry was inaugurated on Tuesday evening, May the 4th, by an introductory lecture delivered by Mr. G. W. Watson, L.D.S. Ed., in the Dental Hospital and School, 30, Chambers Street. There was a good attendance, including a large number of students and members of the profession. Among those present were Drs. J. Smith F.R.C.S., and Hogue, Messrs. B. Macleod, Hepburn, Wilson, Matthews, and Macgregor. The lecturer traced the rise and progress of Dental surgery from the earliest times, and contrasted the crude imperfect knowledge of the ancients with the wonderful perfection to which the science had been brought in modern times.

APPOINTMENTS.

Mr. W. BATES to be Honorary Dental Surgeon to the General Infirmary, Macclesfield.

Mr. JAMES CUMMING, L.D.S., F.P.S.G., to be one of the Dental Surgeons to the Dental Hospital, Glasgow.

THE name of Mr. Frederick Bullin, L.D.S. Eng., Dental Surgeon to the Chester Infirmary, has been added to the Commission of the Peace for the City and Borough of Chester.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

CANTHARIDAL COLLODION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your January (15th) number an account of Mr. Robinson's paper, entitled "Notes on Dental Surgery," is given and in stating his treatment of "Alveolar periodontitis" he speaks of cantharidal collodion as being very good. Some years ago I had a bottle made up, but have lost the *recipe*, and my chemist does not know how to prepare it.

Will Mr. Robinson be good enough let me to know (through your columns) the proper *formula*, as I would like to try it again, having found the last I used very good.

Unless periodontitis is checked whilst in its incipient stages it is difficult to ensure good results from the ordinary treatment, and few patients appreciate the time and patience it takes to bring the gum to its normal condition.

How about a fixed tariff or scale of fees for ordinary Dental operations? All respectable practitioners should agree to some definite fee for ordinary cases. After this, the smallest fee should be 2s 6d., and the maximum 10s. 6d., for extraction without anæsthetics, and any "Registered Dentist" who does it under 2s. 6d. (except in charitable cases) must expect to be ranked among the "barber Dentists."

I am, &c.,

FAIR PLAY AND COMPENSATION.

ANÆSTHETICS IN DENTISTRY.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I should very much like to know whether "registered" Dentists are permitted to administer chloroform or nitrous oxide gas for painless extractions, and in the event of a fatal accident what would be the result?

There are certain contraindications for giving the gas, but supposing a perfectly healthy patient wished to take it and suddenly collapsed, could an action for malpractice be brought against the operator who had taken every precaution previous and subsequent to the administration of the gas?

I should be glad if some of your more enlightened readers would give an article on the administration, dangers, and treatment of syncope in connection with the gas, which would be a great boon to those who have had little experience with serious cases.

I am, &c.,

ENQUIRER.

DENTAL THERAPEUTICS.—A CAUTION.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your November (1879) number you give an extract from the 'New York Times' about a "Fatal Poison in a Tooth," which caused the death of a Mr. Gardener, owing to gangrene of the mouth and face, arising from the treatment of a tooth. This ought to be a warning to ignorant Dentists who dabble with chemical preparations in connection with the practice of Dental Surgery.

Some short time ago I had occasion to devitalize the pulp of the second right inferior molar (an isolated one), which was aching very much, being greatly decayed on the buccal aspect right down to the gum. I applied "Baldock's" preparation—which I find a very good thing—and sealed it up with a pledget of wool saturated with sandarach varnish (my usual custom), and requested the patient, a lady, to come back in a week. Four or five days subsequent to the treatment the husband told me that his wife had suffered a great deal of pain, and thought it might have been caused from the preparation, as there was a white hard lump just opposite the wool I had put in. Thinking it might be an abscess pointing, I requested the lady to come down instead of sending for her medical adviser.

On inspecting the mouth I found a nasty looking *white* spot, about the size of a silver threepence, which had evidently been caused by the escharotic properties of the paste, which had been oozing out (probably owing to her masticating) and was not carried away, owing to the peculiar position of the tooth and the seat of the decay, which would prevent the fluids of the mouth washing or diluting it, and then carried into the stomach, which would have caused no harm.

Strange to say, I had occasion to treat a tooth for a gentleman the same week, and being in the *exact* locality as the other (only not isolated) he came back and stated that he had endured very great pain from the tooth, which I found had caused the same trouble as that reported of the last.

I applied a little glycerin to the spot and requested them to call back if the pain did not subside, but happily there was no occasion to renew the application.

I have treated scores of cases but never had such a case before, and can only account for it owing to the peculiar position of the cavity. Will any of your readers give their experience of such cases, and state their treatment?

I was afraid of the cheek sloughing or becoming irritated. Will you please say what is the best treatment for such cases in case I have any more?

Yours, &c.,

EXPERIENTIA DOCET.

DENTAL DIPLOMA EXAMINATIONS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Having read in the number for April 15th the letter signed "Common Sense," who states that he was plucked sine curriculo, I feel bound to say a few words on the subject, as I am one who would like to see the dignity of

his profession raised by the more general qualifying of its respectable members. The letter by "Common Sense" is likely to mislead and discourage others from attempting the ordeal. He puts me in mind of the fable of the fox who lost his tail in the trap, and then advised all his friends and relations to cut off theirs on the plea of its being fashionable. If gentlemen present themselves for examination (as I know for a fact that many do), thoroughly undirected and unprepared, and with no idea of the requirements of the different examining boards, they certainly ought not to blame the examiners for plucking them. "Common Sense" had evidently tried London or Edinburgh (which I have always looked upon as unnecessarily severe for men going in *sine curriculo*), in a blissful state of ignorance of the amount of anatomy, &c., required by these boards, and then runs down the L.D.S. Now, fortunately all are not compelled to go in for the above, as there are Glasgow and Dublin open till August, 1881, and these examining boards are satisfied that the anatomy of head and neck is quite enough for gentlemen studying under the difficulties that men in practice have to surmount; the examination in Dental surgery is just the same, and the diplomas are equally valuable for all practical purposes. And far from depreciating the Dublin examination, as seems to have become the fashion, I think that gratitude is due to the R.C.S.I. for two reasons, one being that this college was the first to open its doors to all respectable practitioners who wished to give evidence to the public of their professional proficiency, and the other because they are more moderate in their requirements on subjects outside the every-day routine of practice. That a diploma is fast becoming a necessity to every Dentist who wishes to hold his own I am fully persuaded, as nearly all my patients have had pamphlets sent them by an L.D.S. England, in which he not only states prices and "his system," but instils into the public mind the idea that every Dentist "*sine diploma*" is a quack. I feel very happy that I have a diploma to hang up and so keep the confidence of my patients. Also we must not forget that the R.C.S.I. do not allow their Dental licentiates to drag their diplomas through the mire by advertising pamphlets, &c. Each candidate in connection with Edinburgh, Glasgow, and Dublin, has to subscribe to a declaration that he will refrain from all unprofessional practices. The R.C.S. Eng., I am sorry to say, fail to do this, and if it continues whose L.D.S. will rank the highest.

I am, &c.,

T. J. MUSGRAVE, L.D.S. Glasgow.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:

Twelve Months (post free) 14s. 0d.

Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.

5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.
-

Communications received from G. Watson (Edin.), Thomas Fletcher, Herbert Riches, M. Johnson, H. B. Scoones, "Phosphor," Cornelius Robbins, W. Bates, G. H. J. Rogers, "Fair Play and Compensation," J. Crooks Morison (Glasgow), J. J. Musgrave, W. H. Waite, "Enquirer," Felix Weiss, "Experientia Docet," J. A. Gartley, T. Gaddes, J. Stocken.

BOOKS AND PAPERS RECEIVED.

- 'On Port-Wine-Mark, and its Obliteration without Scar.' Fourth edition.
By Balmano Squire, M.B., Lond., Surgeon to the British Hospital for Diseases of the Skin. London: Churchills.
- 'Dental Advertiser.'
- 'Oswestry Advertiser.'
- 'Chester Courant.'
- 'Die Zahntechnische Reform.' Edited by Gustave H. Pawels.
- 'Paper and Print.' H. Vickers, Strand.

British Journal of Dental Science.

No. 298.

LONDON, JUNE 15, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

A CASE OF CYST OF THE ANTRUM WITH OPTIC NEURITIS, ETC.

By W. SPENCER WATSON, F.R.C.S.,

Surgeon to the Great Northern Hospital and the Royal South London Ophthalmic Hospital.

THE insidiousness and obscurity of the symptoms in the early stages of cystic enlargements of the antrum are well illustrated by the following case. For more than a year the only indication of mischief in the antrum was a severe pain in the face and side of the head, and from the fact of this pain being associated with optic neuritis, it was attributed to some intracranial complication, and possibly to a syphilitic node in the neighbourhood of the optic foramen. It is even now uncertain whether the pain is not due to this or some similar origin, and if that be so the cystic disease of the antrum was absolutely devoid of any symptoms until the distension of its anterior wall compelled an exploratory puncture and so revealed the true nature of the affection.

The association of optic neuritis, in this particular case with the antral cyst, may prove to have been merely accidental. Still, the two conditions are both of them so rare that their simultaneous occurrence in one individual is worth noting. I have been unable to find any decidedly analogous case, though there are numerous recorded instances of destruction of sight from disease of the antrum, when the orbit has been invaded and the eyeball protruded. The absence of any protrusion of the eyeball in the present case leaves it open to doubt whether the orbit was, at any period of the case, encroached upon by the dilated antrum, and hence there is an element of uncertainty about the pathology of the eye affection. The cyst in the antrum, judging from the character of its contents, was of the same nature as those described by Giralès, and of which a description and figures in illus-

tration will be found in my work on the 'Diseases of the Nose,' at p. 171.

Ann C—, aged 29, a servant, well nourished, and with dark hair and complexion, came to the hospital on July 14th, 1879. She had noticed failure of sight in her right eye, with a severe pain in the eyeball for about six days. Under treatment elsewhere, the sight had become much deteriorated. She had pains and tenderness of the shin bones, but no symptoms indicating a syphilitic history. There was an exostosis of the right lower jaw opposite the bicuspid. The eyeball had normal tension, the pupil being round and contractile and the texture of the iris good. When the left eye was covered, the right pupil remained partially dilated, though exposed to strong light. Vision amounted to 20 Jäger. On ophthalmoscopic examination, the optic disc was seen to be blurred, and the surrounding retina œdematous. No note was made of any swelling of the upper jaw at this period of the case.

The treatment consisted of mercurials, by internal doses of liquor hydrargyri perchloridi and Plummer's pill, and the inunction of a mercurial liniment on the brow and temple, with an occasional opiate at night. This was continued with slight variations till the middle of September. No improvement of vision was obtained; but the congested and œdematous state of the retina subsided, and the optic disc became pale. The patient was now put upon a course of iodide of potassium. In January, 1880, the eye remained in much the same condition; and there was no swelling of the right upper jaw, visible through the cheek. This swelling she had noticed to be on the increase for the last year, and it had now (January 20th) become extremely painful, the pain extending up to the side of the head. Inside the mouth and opposite the upper molars, a fluctuating tumour presented itself. On puncturing this, a clear yellow fluid exuded; it contained abundant cholesterine crystals. The swelling of the cheek now subsided, and a ragged opening in the antrum could be felt with the point of the finger. The cavity was syringed out from time to time with solutions of sulphate of zinc, and latterly of iodine; and the character of the fluid gradually changed to a mere sero-pus. An opening large enough to admit the point of a probe still remains (May 14th, 1880), and the cavity is still extensive enough to allow an inch and a half of the probe to pass upwards and inwards towards the floor of the orbit. There is still considerable pain of a neuralgic kind in the side of the head and around the eye. The sight of the eye remains as before, the optic disc being permanently atrophied

Up to the present date (June 14th), there has been no improvement in the vision. The nostril on the side affected was not obstructed, nor was there ever any discharge from it.

ON THE VALUE OF ARSENIOUS ACID IN THE TREATMENT OF DENTAL CARIES.*

By Dr. A. COMBE, of Paris.

(Continued from page 518.)

WE will now pass on to consider briefly the physiological action of arsenic. When placed in contact with living tissues arsenious acid acts like other "caustics," that is to say, it sets up inflammatory action, which varies in intensity according to the amount of the dose and the duration of the application. It may cause merely a slight inflammation, terminating in resolution, or it may cause the death of the part, which is then separated and thrown off as a slough; the slough thus produced is soft and pultaceous.

As to its mode of action we know nothing; it does not appear to act like other caustics, which depend for their effects upon rapid and intense chemical action. Thus, chlorine destroys the tissues by appropriating their hydrogen, sulphuric acid takes oxygen as well, and other acids form basic compounds with some of the tissue elements. Arsenious acid acts in a totally different manner; it kills the tissue by rendering it immovable, that is to say, it forms with it a firm combination which renders it unfit for nutritive changes. Gubler, in his 'Commentaries' (1874), expresses himself on this point as follows: "Arsenic, when it has penetrated into the histological elements, does not actually damage their structure, but it prevents the exchange of materials which is the essential feature of nutrition, and consequently it provokes ulcerative inflammation, which proceeds to separate the living from the dead. In short, the slough produced by arsenic is a sort of mummification, more closely allied to the asphyxial state of the brain substance seen in the first stage of softening due to arterial thrombosis than to the shapeless and structureless mass which results from the action of potash or of other strong caustics." Such is the explanation offered by Gubler; that given by

* 'De l'Acide Arsénieux dans ses applications à la thérapeutique de la Carie Dentaire,' par Anthelme Combe, docteur en médecine de la Faculté de Paris. Delahaye: Paris, 1879. We have to thank George Skliros, Esq., for bringing this paper under our notice. We have had it translated specially for this Journal.

Trousseau and Pidoux is somewhat similar. Though ingenious, these theories cannot be regarded as altogether satisfactory, and we must end by confessing that as yet we know nothing about the matter.

Although arsenious acid is usually employed in Dental practice only for the destruction of the pulp, still as it may come directly into contact with all parts of the tooth, it will be as well to see whether it has any action on the enamel or on the dentine, and also whether its influence may not extend to the alveolo-dental periosteum.

Whatever destructive influence arsenic may exert on the other tissues, it has none on the enamel. This resistance may appear singular when we consider its effect on all other epithelial tissues, for it destroys the hair as well as the epithelium of the skin and mucous membranes. But there is a difference between the enamel and the other epithelial tissues; its special formation, the firm cohesion of its prisms, the sluggishness of its nutritive processes, all show that the vital condition of the enamel is peculiar. It is, in fact, not so much an epithelial *structure* as an epithelial *product*. It is then quite comprehensible that a tissue of such low vitality should resist the power of an agent which we know has no action on dead organisms.

As to the dentine, arsenic acts differently on its different constituents; the hard, homogeneous mass of which it is mainly composed is no more affected than the enamel is, nor can any change be detected in the walls of the canaliculi which radiate from the central cavity.

On the other hand, the nervous fibrillæ, which are contained in the canaliculi, undergo very distinct change when exposed to the action of arsenic. And this agent, when used to destroy the sensibility of the dentine, may act in one of two ways.

1. When applied to the exposed extremities of the fibrillæ it cauterises them, that is to say, it destroys the exposed portion just as a hot iron would. As the result of this we get pretty complete, but temporary, insensibility in the part thus treated; but after a day or two the eschar separates, the part of the nerve which has not been affected by the caustic is exposed, and sensibility returns. We have then to repeat the application until the fibrillæ have been destroyed for such a distance along the canaliculi as to be no longer affected by external agents.

2. When applied directly to the pulp it disorganises it, and destroys at the same time every trace of sensibility throughout the dentine. This is only what might be expected, since the pulp is the sole source of sensibility in the

tooth, and the fibrillæ which, traversing the canaliculi of the dentine, communicate sensibility to it, depend upon the pulp for their vitality. As the result of the application the pulp becomes softened and forms a brownish mass. If the arsenic be applied only to one point the pulp will not be completely destroyed, but becomes inflamed, and a slough forms at the place which it has touched. It is this process of inflammation which is the cause of the severe pain which sometimes follows the use of arsenic, and which may last for a considerable time. It is worthy of note that the pain does not immediately follow the application of the caustic, it comes on only after some hours. This delay is due partly to the nature of the agent and partly to the dry state in which it is always used. Arsenic always takes a certain amount of time to enter into combination with the tissue to which it is applied, and before this can take place it must have time to dissolve; in fact, the cauterisation does not really take place till some time after the powder has been applied.

Besides this immediate inflammatory action, made evident by pain, another and slower process may be set up; this does not occur in those cases in which there is complete and rapid mortification of the pulp, but is met with in all cases of inflammation of the pulp, whether acute or chronic, and from whatever causes it may arise. I allude to the production of those hard masses, having the appearance of bone, but really more allied to dentine, which commonly occurs in a pulp which has been inflamed for some time. The formation of these grains of secondary dentine occasionally has a very good result, for if the communication between the pulp cavity and the exterior of the tooth is very narrow it may be obliterated by one of them, and thus a case of the third stage of caries may be turned into one of the second (non-penetrating) stage.

It is, then, only in the two later stages of caries that arsenic can be used with advantage. During the first stage, ending with the destruction of the enamel, it can do no good, since, as we have seen, it has no action upon that structure. During the second stage, which corresponds with the destruction of the layer of dentine which protects the pulp, the acid does act upon the contents of the canaliculi, but only to a slight extent. It is during the third stage, when the pulp has been exposed, that the application of arsenic is most often called for, and is of the greatest service.

In the second stage of caries we may distinguish three different phases of the disease. In the first, immediately after the destruction of the enamel, we generally find the

dentine extremely sensitive. It is only recently that the connection of the fibrillæ contained in the canaliculi with the nerves of the pulp has been demonstrated, and that the origin of this sensibility has been thus fully explained.*

In this superficial stage of caries caustics are useful; astringents will remove the hyperæsthesia, but only after a considerable time, and the nature of the disease renders it difficult to keep dressings of this sort in contact with the part. The same difficulty attends the use of chloride of zinc or Vienna paste. According to Tomes, nitrate of silver cauterises these sensitive surfaces very satisfactorily, but it communicates a dark colour to the tooth; chromic acid will also answer the purpose, but it colours the tooth yellow. The actual cautery, effected by means of small cautery irons of various shapes, which are rubbed over the sensitive part, produces immediate insensibility. This is due to the fact that the heat causes a partial carbonisation of the dentine with the canaliculi and their contents, and the eschar thus produced completely intercepts all external impressions. It is always necessary to be careful in thus using the actual cautery, for inflammation may be set up, and may spread along the canaliculi to the pulp, which may itself become inflamed, giving rise to most acute pain.

I have never met with such a case myself, but Dr. Magitôt says he has seen several patients in whom this hyperæsthesia could not be cured even by the actual cautery; he was obliged to open the pulp cavity, and to destroy the pulp by means of arsenic, the pain then ceased at once and for ever.

As regards this form of caries, then, arsenic must be kept in reserve for those cases in which the actual cautery has not the desired effect.

The next phase corresponds to the period of destruction of the middle layers of the dentine; here the conditions are altogether different. These layers are endowed with a sensibility much less acute; the use of caustics is contra-indicated, and the treatment is essentially based upon astringent applications.

Deep caries of the second degree, although anatomically it cannot be distinguished from that already described, is yet practically distinct. The whole thickness of the dentine interposed between the enamel and the pulp has now been destroyed by caries, except a thin layer still separating it from the pulp cavity. On exploring with a blunt instru-

* See an article by MM. Chas. Legros and Magitôt, on the "Morphology of the Dental Follicle amongst the Mammalia," published in Robin and Pourchet's 'Journal d'Anatomie,' 1879, p. 265.

ment the patient experiences very acute pain ; the thin layer of dentine which still protects the pulp is not enough to deaden its sensibility. The indication here is clear ; we must try to preserve the pulp, which is the tooth's principal organ of nutrition, and we must at the same time get rid of this over-sensitiveness, which would probably continue troublesome if we were to stop the tooth without some preliminary treatment.

One of the regular functions of the pulp consists in the formation of dentine, and if we irritate the organ slightly we can increase its activity in this respect ; fresh layers are then deposited, which are known by the name of *secondary dentine*. These new deposits, added to what is left of the old, help to make up a partition strong enough to support the material which is to be used for stopping, and at the same time protects the pulp more perfectly against external influences. In such cases we must take carefully into consideration the degree of sensibility of the deep layers of dentine which still protect the pulp, and must proceed with the greatest caution.

With a view of bringing about this thickening of the deeper layers of the dentine the treatment most frequently made use of, and, indeed, the most rational, is the application of some astringent, such as tannin or carbolic acid. But in some cases the sensitiveness is not removed by these means ; it is then necessary to have recourse to caustics, and arsenic is under these circumstances the best that can be used. The application of the actual cautery is now scarcely permissible on account of the danger of exciting acute inflammation of the pulp. The use of arsenic is not free from the same risk ; the action excited by it may proceed too far, and inflammation of the pulp may result ; it is necessary to take the greatest care. Still, with proper precautions, regulating the dose with the utmost nicety, any desired effect can be produced, from merely a slight irritant action to that which will result in destruction of the pulp. And, in fact, the application of a very small quantity in such a case as this will sometimes induce that reparative action on the part of the pulp which it is so desirable to effect if possible ; we not unfrequently thus use arsenic to produce so-called "astringent," or mildly irritant, effects. Of course, in such cases the dose must be much diluted, and only in the event of failure of the first application should we venture to increase the strength.

It may be objected that arsenic is too powerful a remedy for use in such cases ; it is, indeed, by no means rare to see the pulp inflamed as the result of a rash application ; we

get then a severe attack of the characteristic throbbing pain which is only relieved by making a free opening in the wall of dentine which is compressing the swollen organ. Should the existence of a communication with the pulp cavity have been accidentally overlooked, the application of an astringent dose of arsenic will only have the effect of setting up superficial inflammation of the organ instead of the wished-for reparative action.

Tomes, whilst he acknowledges that arsenic is the most certain and efficacious of all the remedies which have been proposed, gives the preference to chloride of zinc in the second stage of caries as being safer. His treatment is as follows:—He tears out a little cotton wool into a fine web, and then adds some very liquid oxychloride of zinc; the mixture is introduced into the tooth and allowed to harden, as if it was a stopping of gum sandarach. Oxychloride of zinc, even when used as thick as possible, contains a small excess of chloride, and when used thin the quantity of free chloride is considerable.*

In this form of caries, then, we should try astringents first, especially tannin, limiting the use of arsenic to those cases in which we wish to obtain rapid insensibility, and always bearing in mind that it is necessary to apply it very cautiously in these cases. We must remember, also, that cases do occur in which neither tannin, nor chloride of zinc, nor even arsenic, will remove the sensitiveness of the dentine. The only course, then, is to cut through the layer which still protects the pulp, and treat the case as one of the third stage of caries.

The third stage is reached directly the caries has penetrated to the pulp cavity. There is no occasion for me to describe the symptoms which are characteristic of this phase of the disease; the diagnosis is usually easy, and the treatment which is indicated is equally clear—we must destroy the pulp.

Before speaking of the use of arsenic for this purpose, I must say a few words respecting the various other means which have been suggested. Dr. Magitôt writes as follows:—"It is possible to remove the pulp by means of a fine stylet, either straight or curved. This is passed into the cavity and then turned round quickly, so as to detach and extract the pulp. This plan, formerly much used, appears to us only applicable to the incisors and canines; in these teeth the pulp, being small and fusiform, can easily be hooked up in this way, and can often be extracted whole. It is attended, however, by certain drawbacks; in the first

* See 'Brit. Journ. of Dental Science,' vol. xiii, p. 552.

place the pain of the operation is very acute, and in the next place, however careful one may be, there is always the chance of leaving behind a part of the pulp attached to the nervo-vascular cord which occupies the dental canal, and this fragment is liable subsequently either to grow or to become inflamed."

In general, then, we reject this rough mode of extracting the pulp, and only use it in cases where the pulp can with certainty be removed by a single sweep of the instrument.

The actual cautery and the electric cautery have also been used for this purpose, but almost the same objections apply to them as to the treatment which has just been described. The operator cannot be absolutely sure that he has passed his red-hot stylet or cautery iron into every corner of the cavity, and has completely destroyed the pulp. Cautery irons of so small a size cool very quickly, and when one has to do with a good-sized pulp chamber, such as that of one of the large molars, its destructive action is apt to be imperfectly performed at some point or other. If the electric cautery be used it is difficult to get the loop of platinum wire through the opening into the pulp cavity unless it is of some size. The operation is, moreover, very painful, and not free from danger. The patient, surprised by the sudden and acute pain, may, by an involuntary movement, present some other part of the mouth to the action of the cautery. And, further, the operation may be followed by inflammation of the pulp or of the periosteum, a sort of reaction which may occur after any form of cauterisation, but which the electric cautery seems particularly liable to excite.

Various other caustics have been proposed and used. We need not speak here of the superficial caustics, such as carbolic acid, nitrate of silver, &c., but only of those which have a deeply destructive action on the tissues. Liquid caustics should be but rarely made use of, on account of the difficulty which attends their proper application and management; it is almost impossible to localise or to regulate their action. If we use an acid, and nitric acid has been suggested for this purpose, there is the objection that it acts directly upon the hard tissues of the tooth as well as on the pulp, and that it is impossible to foresee how far this action may extend; in fact, if the application should have to be repeated several times it may soften and destroy the crown of the tooth. In the case of the alkalis, such as potash, soda, baryta, &c., their extreme solubility exposes them to the risk of melting and damaging the adjacent gums or cheek, or even the larynx. We must, however, make an exception in favour of one liquid caustic, chloride of zinc, for use in

certain cases in which, on account of the form or situation of the caries, the application of a caustic, either solid or as powder, is attended with difficulty; it is clear that under these circumstances a liquid caustic which will penetrate into all the nooks and corners of the cavity will produce the most satisfactory effect. A mixture of equal parts of deliquescent chloride of zinc and of a saturated solution of chloride of antimony will be found very useful for this purpose.

Chloride of zinc may also be applied in the form of Canquoin's paste; this is made up into a small pellet or cylinder, which is introduced into the middle of the pulp cavity, so as to be in contact with the pulp on all sides. Chloride of zinc when used in the liquid state should be as neutral as possible; it should be applied carefully on some asbestos or cotton wool, and covered by a layer of wax or by some cotton wool saturated with a solution of mastic.*

(To be continued.)

CONSTITUTIONAL CONDITIONS AND TREATMENT, AS RELATED TO THE PRACTICE OF DENTISTRY.

Read before the Connecticut Valley Dental Society,

By C. T. STOCKWELL, Esq., Springfield, Massachusetts.

The subject that I have chosen as the theme upon which to write a paper for this occasion, is one so broad and comprehensive in its scope, so intimately connected with much that may be considered speculative and obscure, that it may seem almost like personal arrogance, on my part, to adopt it. I have, however, written it, not assuming to *instruct* a body of men, most of whom are older and wiser than myself, but rather in the spirit of *inquiry*, thinking that, possibly, it may serve to open the way to a discussion upon a most fruitful and important field that is, at least, closely allied to our specialty.

That the teeth are, to a very great extent, dependent upon constitutional conditions is a fact generally acknowledged. The hereditary law is as absolute in relation to the *teeth* as to other organs. Man has but one body, and though it be divided into *parts*, each has the same life, is supplied by the same nerves, and has a common system of nutrition and

* See Magitôt, 'Traité de la Carie des Dents,' p. 198, and the 'Diet. Encyclopédique des Sciences Médicales,' vol. xii, series 1, p. 580.

waste. There may be *exceptionable cases* where *individual organs*, or parts, are, or seem to be, perfect, while the *general whole* is enfeebled and exhibits marked manifestations of wrong life. Also, there may be, and are, lesions of *certain parts* that include the *dental organs* in their baleful influences, while the *general health* is good. But it may be stated, as a rule, that the teeth are found to be in close sympathy with the general condition.

Man has but one life, and the life principle is the same for all parts. The *normal* manifestations of this life we call health; the *abnormal* manifestations we call disease. Disease, then, may be denominated wrong life; and all parts of the whole must be affected, more or less, directly or indirectly, by a material wrong of any part, especially when this wrong is manifested in *vital functions*.

This being true, it seems evident that the Dental practitioner should give careful and intelligent attention to constitutional conditions. And not this alone, but he should study them also, with reference to the *administration of remedies*.

Have we not, as a profession, practically been too much in the habit of practising by rote, or, in other words, are we not, *practically*, simply "tooth jewellers," rather than what we should be, tooth physicians?

Can the Dentists do nothing else to arrest or alleviate this universal destruction of dental tissue than to prepare and fill cavities? Is this *all* that he can do? And is this all that he may justly claim a professional fee for doing?

It may be claimed that more is already done; that we cleanse the teeth, treat the gums, attempt to correct local conditions that promote decay, &c., and that the patient is given instructions regarding the proper care of the teeth, in order that future decay may be forestalled. All this is admitted. Many do this, and some more than this, perhaps. But is this, even, universal? Indeed, I fear we should be much surprised if it was actually known how few make it a conscientious practice to give their patients proper advice in relation to the matter of *thorough cleansing*, to say nothing of such other various conservative courses as may be adopted to the future advantage of the patient.

This is so, generally, I imagine, partly because whatever of such advice is given is considered a gratuity, and mistakenly so considered. How many of our "Registers" show charges for prescriptions, or advice, to our patients? Are not our fees always for operations requiring manual labour? Who of us is so fortunate as to have a class of patients that would not at once question a bill which included

a charge for professional advice, although the advice, if faithfully followed, might result in saving to the patient future expense, annoyance and pain, to say nothing of the value and satisfaction of having a sound tooth, or teeth, as compared with mended ones.

The fact that we make no charges for such conservative advice is, I apprehend, the prominent reason why it is so seldom followed to any extent. Our patients place but little value upon it, because *we* value it so little.

There are several prominent reasons that may be named why the Dental practitioner should be able to recognise constitutional conditions. The first that I will name is *that he may make a proper selection of materials for filling the teeth*. The day has passed when any one of the commonly used materials for filling may be considered in every case "*the best*."—Good judgment should be exercised, ceaselessly, in the selection of materials, and this should be based not alone upon the position of the cavity and texture of the tooth to be filled, but upon constitutional conditions as well. All of us, doubtless, have often put in temporary fillings of gutta percha or oxychloride of zinc, in certain conditions of the patient, when it was apparent that gold or other metallic materials were useless for the time being, and afterwards have found that the condition of both the teeth *and* general system had changed so as to *tolerate* more permanent work.

This is often the case with our young patients when their vitality has been so exhausted by excessive application to their studies as to show marked expressions of a lack of tonicity in the teeth, or, in many cases, following long and serious sickness; and, with women, during and shortly after pregnancy. Also, with girls, at the time when they approach, and are passing through, the period of puberty.

In many of these and similar cases I believe there is a decided preference regarding materials that should be used in filling; and to forecast the possibilities of the future, with reference to such cases, requires something more than merely *mechanical* skill on the part of the operator. Our judgment must be based upon careful observation and recognised constitutional laws.

Again, *the time when* many operations may be most safely performed depends very largely upon constitutional conditions.

For instance, I would not permanently fill the *pulp* cavity of a tooth when the patient is not in usual health, or when he or she were, from any cause, excessively fatigued or suffering from any unusual disturbance of the stomach or bowels, especially if this disturbance is of a markedly bilious

or constipatory character. If such teeth are filled, under these adverse circumstances, I believe the chances for unfavorable results are much enhanced, and one will be fortunate indeed if inflammation and abscess does not follow the operation. In fact, I can scarcely conceive of *any* case that may be presented in the course of our everyday practice when we should not take into account actual constitutional conditions, and that our decisions, as to the course to be pursued, should be governed thereby.

But, again, it is *legitimate* and *important* that the Dentist should study the constitutional conditions *with reference to the administration of remedies*.

Is it the sole province of the Dentist to perform *mechanical* operations upon the teeth? Must he do nothing else? Are not the *teeth*, in any case, amenable to *constitutional* treatment? Do they form an exception to other organs of the body? In cases where there exists an evident *disintegrating diathesis*—if I may apply the term to the teeth—is there no *law* or *inherent power of reversion*?

Scientists tell us there is such a law, and that the lungs yield less readily than any other organ. But it is a well-accredited fact that reversion, under favorable conditions and intelligent guidance, is accomplished in cases where there is a marked tubercular diathesis, even where the hereditary taint is conclusive for generations preceding.

I have in mind a large family, where the universal tendency of their teeth in each case is so marked, that I think it may be proper to term it a diathesis. The parents, children, grand-children, and great grand-children, all have the same general characteristics clearly manifested in their teeth. The older members of this numerous family, nearly, if not quite all, are wearing artificial teeth. My fight, for four or five years, has been with the rising generation. The teeth are soft and frail, and *white* decay, so called, is prominent. The *constitutional* diathesis is evidently of a scofulous nature.

In connection with my care of this family, the question has often forced itself upon my mind whether it were not *possible* to *renovate* the *blood*, and thus reach the root of the difficulty. Do the best that I can as regards *filling* these teeth, and combating adverse *local* conditions, the feeling presses home upon myself that I have, boy-like, simply built *mud dams* with which to stem the *ever onflowing current* of destructive tendencies inherent in the system.

Do we, as a profession, stand powerless before such a spectacle? Must we *content* ourselves with building gutta-percha dams, oxychloride dams, dams of amalgam, or even gold dams? Is there no "bitter herb" that possesses the

magic power of sweetening these waters, or drying up their fountains?

The fact that there are hundreds of thousands of similar cases in our land makes a knowledge of the *true conditions of reversion* vastly important. To me, it seems as important that the *Dental* practitioner should become an expert in this knowledge as it is in the case of the *lung* specialists, for instance.

Assuredly is this so if the Dentist would reach the *true ideal*, and be all to his patients that it is *legitimate* and *possible* that he may be.

But it may be said that this is an encroachment upon the physician's domain, and implies a physician's attainments.

That it is an *illegitimate* encroachment I deny. That it implies *more* than the average physician's real, or even supposed attainments, I admit; but is this too much to require of the ultimate Dentist? Is there a Mount Washington in Dentistry, a height beyond which it is impossible to go higher?

The true office of the Dentist, it has often been said, is to *save* the natural teeth. By this, it has largely been meant to save the decayed or decaying teeth by his manipulations. But the first and most important office of the Dentist would seem to be to save the natural teeth *from* decay—to forestall and prevent this universal destruction of dental tissue.

Some one has lately said that the Millenium would come when the physician's aim was to *prevent* sickness and disease rather than to *cure*; this is as true of the Dental practitioner. At least, a long stride will have been made in the *direction* of those long-looked-for thousand years, when the physician and Dentist have secured this high and noble end.

It requires the cycling revolutions of time to ultimate all great undertakings, but this should not discourage the effort. It is certainly a grand and noble aim, and opens upon a fruitful field for the ambitious and philanthropic. It is, however, clear, I think, that this end is not to be gained by *local* or *mechanical* treatment. We must, in order to attain the best results, look deeper than the *surface* merely.

If we would gain control of a smoldering fire *within* a structure, we must point our extinguishers within, and not alone upon it. We must reach the *fire*, and combat it, and not satisfy ourselves with the running to and fro after its *reflections* or the *shadows* it casts upon the surface. And, gentlemen, the fire is within. The pathological conditions of the teeth are, very often, if not always, but the *reflections*,

or one of the *expressions*, of the *constitutional* wrong. Give as much credence as you please to the various *chemical* theories, the fact still remains that the most absolute cleanliness and care does not, in every case, prevent the disintegration of tissue; while other cases are numerous where the *local* conditions are the most adverse conceivable, notwithstanding the teeth do not decay. Is this fact to be accounted for upon any other basis than a constitutional one? Is not the wrong in the blood? and are not the decaying teeth a *resultant*, or one of the *expressions* of this wrong?

The chemical force is an *active* one, unquestionably, but not the *basal* one. To a very large extent, the chemical forces have their origin in constitutional abnormalities. But where they do not thus originate, the *constitutional* conditions being perfect and normally vigorous, the teeth are thus equipped with the power of withstanding, or resisting, the chemical agents. It is important, and imperative even, that we combat the chemical auxiliaries; but our treatment should not stop here. We should as well be able to diagnose the *constitutional* wrong, and direct our efforts toward its removal. This seems to me to be a part of the Dentist's duty, as legitimate as the filling of decayed teeth or local treatment and care.

Assuredly is this the case when children are placed in our charge; we should not only watch their teeth with a sharp eye for cavities, but we ought to watch as vigilantly for constitutional wrongs—wrongs of habit, diet, exercise, &c., which tend to promote and invite the destruction of dental tissue, thereby preventing the necessity for the hard manual labour that is required to *save* the teeth after the destruction has once commenced. The Dentist should also be remunerated for this watch, care and study, as liberally as for the labour put forth to save after they become decayed. The patient can better afford to pay for the prevention of disease than its cure; and it is very largely the profession's fault that they may not now so regard it. One is seldom accorded credit where he claims none.

Again, we need to be able to diagnose constitutional conditions, and also apply the proper remedies, in our treatment of the various *inflammatory* conditions of the teeth and surrounding parts. If we rely alone upon *local* treatment in cases of inflammation of the pulp and pericementum, we shall often sadly fail.

The same general laws that pertain to the treatment of inflammation in *any* part applies to *all other* parts. An inflammation of the pulp of a tooth, or of the pericementum, is amenable to precisely the same treatment as an inflam-

mation of the lungs, brain, &c. We need in all cases of inflammation, of course, to look carefully to the circulation; for the normal circulation of the blood seems to serve as the basis for the performance of all other functions.

Our fingers need that nice and delicate education which will enable them to correctly interpret the language of the pulse, for it has volumes to say to him who can read its impressions intelligently. The study of it is one of the most important and interesting.

The probabilities of a favorable termination of local inflammation, in any case, is largely proportionate to the ability to control the circulation of the blood *to* and *in* the part and the local processes of disease are severe in proportion to the excited circulation or frequency of the pulse; or, in other words, as is the frequency of the pulse so is the intensity of the inflammation and impairment of the life of the part, and, also, the danger of an unfavorable termination.

Just in proportion to the variation of the circulation and temperature from the normal standard is the severity and activity of the disease. The temperature being dependent upon the circulation rises and falls with the circulation or pulse. In therapeutics, therefore, it follows that just in proportion as the circulation and temperature can be brought *to*, and maintained *at*, the normal standard, just in that proportion are the processes of disease arrested, and vital processes re-established. This being true, the importance of an intelligent diagnosis of the circulation, and the necessity of gaining control of the same, is self-evident in all cases to which allusion has been made.

It is not within the proposed scope of this paper to enter into details of treatment. But this much may be allowed, perhaps, in reference to the *constitutional diathesis*, or *reversion* principle alluded to, to wit: That a true knowledge and a correct observance of *correct hygienic laws* are among the very first requisites. By this is not meant the matter of diet alone. Important as this may be, there are conditions, habits, environments, &c., that are equally important and necessary to a favorable culmination of the reversion tendencies that may be inherent in the system.

The centuries during which the old Romans lived and flourished, without the occasion for a physician, was made possible by their simple manner of life. But when an aristocracy arose that departed from their former simple habits, and began to indulge in extravagance in eating, drinking, &c., then the demand for physicians arose.

Thus it would appear that the task before the ultimate physician is a no less one than the revolution of much that

we term civilisation, and he may well call to his aid the social scientist.

(To be continued.)

Hospital Reports and Case-Book.

MONTHLY REPORT OF CASES TREATED AT THE DENTAL HOSPITAL OF LONDON,

FROM MAY 1st TO MAY 31st, 1880.

Extractions	{ Children under 14	493
	{ Adults	782
	{ Under Nitrous Oxide	368
Gold Stoppings		123
White Foil ditto		11
Plastic ditto		395
Irregularities of the Teeth treated mechanically		60
Miscellaneous Cases		264
Advice Cases		84
Total.....		2580

CORNELIUS ROBBINS,
House Surgeon pro tem.

MONTHLY REPORT OF CASES TREATED AT THE NATIONAL DENTAL HOSPITAL,

FROM MAY 1st TO MAY 31st, 1880.

Number of Patients attended	1055	
Extractions {	Under 14	415
	Adults.....	455
	Under Nitrous Oxide	96
Gold Stoppings		52
Sheets of Gold used, independent of Pellets.....	85	
Other Stoppings		274
Advice and Scaling		58
Irregularities of Teeth		17
Miscellaneous.....		33
Total operations		1400

WILLOUGHBY G. WHEISS,
House Surgeon.

British Journal of Dental Science.

LONDON, JUNE 15, 1880.

IN the 'Lancet' for June 5th there is an article upon the Royal College of Surgeons of England, in which we find it stated that this College "is the only examining board in England—nay, perhaps, in the United Kingdom—which is able and allowed to grant a registrable qualification that does not include a guarantee of proficiency in Chemistry, Materia Medica, Pharmacy, Pathology, Midwifery, and Forensic Medicine." Upon reading this paragraph we could not but feel some surprise that the words "Dental Surgery" or "Dentistry" were omitted, seeing that the 'Lancet,' on the one hand, persistently ignores the Dental Diploma of the Royal College of Surgeons, and, on the other, seems to maintain that no one is competent to write upon Dental Surgery but those who are full members or fellows of that College, whether they possess the Dental Diploma or not; indeed, apparently, according to the views of the 'Lancet,' that Dental Diploma is of no value at all.

Surely according to the *present* tactics of the 'Lancet,' and the views of those who write its articles on Dental subjects, it ought to advocate the addition to the "guarantees of proficiency" that it deems requisite for the attainment by the general surgeon of a registrable degree, some knowledge of Dental surgery, which he is too often so lamentably ignorant of. In these remarks we in no way intend to reflect upon the Association of Surgeons practising Dentistry, who, for the most part, are far more truly pure Dentists than pure Surgeons, but only desire to point out the inconsistency of a medical paper speaking authoritatively upon a specialty, the very name of which it omits from the list of subjects it deems that a surgeon should be acquainted with to qualify him for obtaining a registrable degree.

Literary Notices and Selections.

THE USE OF GASEOUS FUEL, WITH SPECIAL REFERENCE TO ITS APPLICATION TO LABORATORY FURNACES.

By THOMAS FLETCHER, Esq., F.C.S.

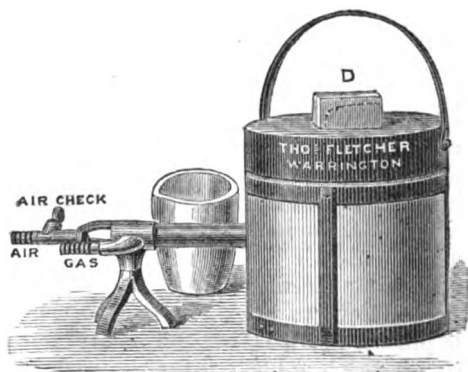
(From the 'Journal of the Society of Arts.')

(Concluded from page 489.)

ANOTHER objection to draught furnaces is the difficulty of keeping all the lids and parts fitting so perfectly air-tight as to keep all cold air out of the chimney, and thereby interfering with its satisfactory working. Where the pull of the chimney is great from its height, there is a great liability to this leakage of cold air into it, and there is also a great waste of heat in keeping the chimney at a sufficiently high temperature to enable it to work efficiently. Draught furnaces have their place and fill it, but for many purposes there is nothing to approach a blast furnace, used with either coal gas or gasoline vapour. The furnace I now show you, and which I will, at the conclusion, light and keep going for ten minutes, is perhaps the most perfect example of the great results to be obtained with gaseous fuel. The casing which holds the crucible is a simple thick pot of my porous clay, with a hole in the side, and a lid with a hole in the centre for the escape of the products of combustion.

The burner, I consider, is as perfect for its work as the casing. It is a true solid flame, formed by injecting, with this little foot blower, a fine stream of air at a high pressure into a tube, into which gas or gasoline vapour enters at the side. By using the air at a high pressure, the larger quantity of air required for combustion is pulled in mechanically at the openings in the tube, thus dispensing with the large and costly blowing apparatus which would otherwise be necessary. The end of the tube against the hole in the casing may be open, but is then liable to make a rattling unpleasant noise; to prevent this, I cover it with a cap of gauze, which, when the furnace is at a blinding white heat, is perfectly cold, partly owing to the fact, as I previously explained, that a gas flame produced by a blast is never in absolute contact with the burner which produces it, and partly to the constant blast of cold air and gas passing through. The burner fits tight against the casing. A perfectly explosive mixture is

made rapidly in very small quantities, and burnt in a close non-conducting chamber so perfectly and so instantaneously that not a trace of flame is visible in the furnace, as may be seen by those interested who will come and examine the furnace whilst working. In this furnace I can, as you will see, starting all cold, get a crucible well over a cast iron melting heat in five minutes, and to a blinding white, approaching a blue, heat in ten minutes.



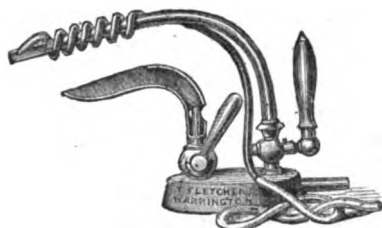
Blast Furnace (injector).

The gas consumed in this furnace, as I shall work it at the conclusion, is about 40 cubic feet per hour. It therefore requires less than 4 cubic feet of gas to raise a crucible, sufficiently large to hold 2 lbs. of cast iron, to over the fusing point of cast iron, and it takes about 7 cubic feet of gas to melt this weight of iron, so that it can be poured. Let it be remembered, that this quantity of gas costs a little over one farthing, and is equivalent to about 4 ounces of coal. Let it also be remembered, that this minute quantity of fuel not only melts the iron, but heats up a cold furnace and crucible. It is very easy to work the furnace with a very small gas supply, but in this case the heat is obtained much more slowly, and the total quantity of gas used to obtain the same result is greater.

Greater power and greater rapidity of working than shown by this furnace is not desirable, although it could be easily obtained by increasing the air and gas supply. No crucibles known will stand a greater power than this furnace gives with ease, whilst for simplicity of construction, and ability to bear hard work, anything better could hardly be desired. With this furnace, I think the art of heating crucibles by gas may be considered to be complete.

Consider, for one moment, the actual results obtained in this furnace with four ounces of fuel, and compare the number of pounds of coal or coke necessary to produce the same result, then the economy of gas fuel under proper conditions, becomes self-evident. Bear in mind also that it is applicable to either coal gas or air gas from benzoline, the latter fuel enabling the furnace to be used for the fusion of pure nickel and delicate coloured enamels and glass, which the sulphur always present in coal gas would otherwise prevent the furnace being applied to. When we consider the important part which nickel is likely to play in the future for many purposes, more especially in its pure and malleable form, this power of melting this refractory metal in a simple furnace is a matter of no little importance.

I have time only to say a few words about blowpipes. The flame of a blowpipe is, to a certain extent, hollow; but not so much so as is the case with the ordinary flame made without an air blast. The reason of the very high temperature obtained with a blowpipe flame is that the heat is driven to one point and accumulated there. I have here an example of an arrangement, devised by myself some years



Blowpipe, with air-jet coiled round the gas-pipe, and Bunsen burner underneath, to heat both gas and air before burning, so as to obtain high temperatures.

ago, for heating both the blast of air and the gas, producing a flame having a temperature far above that required to melt platinum.

A blowpipe flame, however large, has little power compared with the burner of the blast furnace which I have just described, when we have large bodies of material to heat. The combustion is neither so rapid nor so perfect; in fact, the blowpipe flame is hollow and long, with only one hot point. The furnace burner flame is solid, short, and of equal temperature throughout.

I will now explain some of the differences between coal gas and gasoline or benzoline vapour, in practical use. Coal gas is never free from sulphur, and it is, therefore, difficult

to use for the heating of metals and other substances which are liable to damage by sulphur compounds. It is also not satisfactory for the fusion of enamels, except in perfectly tight chambers, from which the products of combustion can be completely excluded.

The vapours of the lighter petroleums, on the contrary, are free from sulphur, and I have repeatedly fused the most delicate enamel colours in the open flame without the slightest injury.

Another curious difference in the two fuels is that when gasoline or benzoline vapour is used with a blowpipe, the flame is exceedingly liable to blow out. I can use no other satisfactory simile, except that the gasoline flame appears to be "brittle," and not to hang tenaciously to the blowpipe as a gas flame does. When anything is in the gasoline flame, which is at a sufficiently high temperature to keep up the combustion, this is no disadvantage. In the furnace, air gas from benzoline burns with a perfect steadiness, precisely like coal gas, but when we attempt to use it for blowpipe work, the flame is continually leaving the point of the jet and blowing out. In this respect the field for experiment is yet open.

I believe I obtained from my friend Mr. Bower, only last night, an idea which may serve to solve this difficulty, but which I have not been able yet to test. I found that with benzoline gas his blowpipe was much more satisfactory than my own, the only difference between the two blowpipes being that his had an exceedingly thick air-jet; mine had a very thin one. The jet of thick glass or metal does not appear to lift the flame away to the same extent, and some experiments will be made in this direction as soon as I return.

It must be remembered that coal gas is lighter than air; gasoline gas is, however, much heavier; and therefore the atmospheric, or Bunsen burners, made for coal gas, which are open at the bottom, will not work satisfactorily with gasoline gas, as the latter falls and escapes from the lower openings. For gasoline gas, the only heating burners which can be used are those arranged in a similar manner to the solid flame burners, with a horizontal jet and air-tube. On account of the weight of gasoline gas, if the generator is placed at the top of a building, the weight of the gas is sufficient to supply an argand burner in the lower part of the building, although the pressure obtained is not sufficient to work any of the common lighting burners which do not require a chimney.

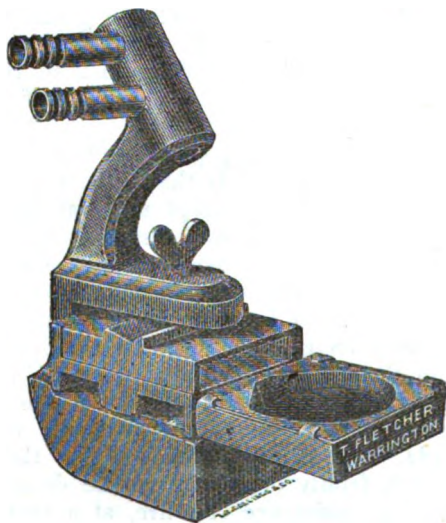
I have two exceedingly curious flames to show you; one

is a solid flame, produced on a surface of gauze by a chimney draught, the chimney being free to vibrate. The explosions, by the management of the chimney, can be varied in their rapidity, producing different tones. I do not recommend this in its present form as a musical instrument, I simply show it you as a curiosity. The other is a flame which requires close examination to see its beauty; and I will show it at the conclusion whilst the furnace is working. It is produced under peculiar conditions. When the vapour of gasoline is burnt on a gauze surface, with just sufficient air to make a blue flame, the surface of the gauze is covered with innumerable round blue beads of flame, rushing about in all directions. I can offer no explanation of this, and I cannot produce the same effect with a coal-gas flame under any conditions.

In conclusion, there are many purposes to which gas fuel can be applied, far more perfectly than it is at present. In fact, we may say that its use, except in blast furnaces and blowpipes, is yet in its infancy, and the work done by Gore, Wallace, and others, may be considered only as a small sign of what is yet to come. I believe the time is, perhaps, not far distant when gas will be used exclusively for cooking purposes, and that its rapid adoption all over the world depends only on the makers of the apparatus. If the makers of gas-heating arrangements had to pay for all the gas wasted in their apparatus, I think many improvements would very quickly be made. My own experience is that the whole of the cooking for a family of eleven can be done perfectly, entirely without the assistance of a fire, at a cost of about twopence per day for gas. When we compare this with the cost entailed by some apparatus now sold, the necessity for improvement is self-evident. Where liquids have to be boiled or vessels heated, the work must be done by one solid flame, not by a number or one hollow flame; the ovens and pans must be as shallow and broad as possible, and must also be no thicker than is absolutely necessary. I have seen gas-cooking apparatus in which some two or three cwt. of iron has to be heated before any satisfactory work can be done. My own ovens and pans are as thin as they can possibly be made, and I find, by experience, that our largest oven is fully hot in two minutes. In a properly arranged water-heater, it requires about one and a half cubic feet of gas to boil one gallon of water; this is the result I get in actual work, under the best conditions. I may safely take it as an average, with the burners generally used for cooking, that from five to twelve cubic feet of gas is burnt to do the same work, owing partly to the improper construction of the

burners, and partly to the faulty shape, and unnecessary weight of the vessels used.

Amongst the still more recent improvements in gas-heating apparatus which have not yet been made public, I may mention two. The first, which I now show you, is a simple and cheap arrangement for melting and pouring into ingots of different shapes a few ounces of gold or silver, without the use of a furnace. My first arrangement of this kind was essentially different. In this, as you see, both blowpipe,



Fletcher's Furnace.

crucible, and ingot mould, are mounted on one rocking stand, the two slides of the ingot mould slide over each other to enable ingots of different shapes and weights to be cast, and the rocking stand, clamp, and blowpipe, are all obtained in a single casting, reducing the cost of the whole to a few shillings. It is well known that the toughness and working properties of gold are greatly improved by this method of melting with a flat crucible and a blowpipe, and the results compare very favorably with those obtained in the best furnaces. As regards time, a 3 oz. ingot can be melted and poured in two minutes with ease.

(To be continued.)

THE CHEMISTS ON DENTAL REGISTRATION.

DENTAL REGISTRATION.

To the Editor of the 'Chemist and Druggist.'

SIR,—I enclose you a circular letter I have received from the Honorary Secretary of the British Dental Association, pointing to the fact that when I was registered under the Dentists Act I was only an assistant, and not on the Chemists and Druggists' Register. He says: "Under these circumstances your registration in the Dentists' Register is, in the opinion of counsel, a clear violation of the provisions of the Dentists Act. The Representative Board, therefore, suggest that you should, in writing, request the Registrar to remove your name from the Dentists' Register. Should you not see fit to follow this recommendation within fourteen days from the date of this letter the Board will feel bound to bring the case before the General Council, the possible result of which proceeding will be that your name will be erased from the register, and that you and the witness to your declaration are liable to be proceeded against under the appended section of the Dentists Act, which was prominently printed upon your declaration paper."

Previous to July, 1878, I practised Dentistry (such as is usual with a chemist's business), I being then an assistant. I filled in my application form, "As in practice before July, 1878, in conjunction with pharmacy." You will see they wish to make out that this was a misrepresentation. Will you kindly inform me if they can erase my name from the register, and also what steps should I take in the matter? I have no doubt hundreds are threatened in the same manner.

Yours,

ASSISTANT.

June 5th, 1880.

[We have printed the above as a specimen of more than a dozen letters which we have received on this subject from various parts of the country. The Secretary of the British Dental Association has been sending round a lithographed circular letter to all persons registered as in practice before July, 1878, in conjunction with pharmacy, whose names do not appear on the register of chemists and druggists. He suggests that the recipient should, in writing, request the Registrar to remove his name from the Dentists' Register within fourteen days. If not, the Association will bring the case before the Medical Council, and possibly the name will then be erased, and "you and the witness to your

declaration are liable to be proceeded against under "section 35 of the Dentists Act, which provides against registration procured by false or fraudulent representation, and are "liable to be imprisoned for any term not exceeding twelve months."

No one familiar with the circumstances can read this circular without some indignation. There is not a word in it which is untrue, but it is likely, and of course intended, to produce an impression which it does not seem to us it is justifiable to produce. In the first place, the British Dental Association have no official standing in relation to the Dentists Act whatever. No doubt they can bring anybody's case before the General Council; so might any other association or individual. They have, it is true, obtained a counsel's opinion to the effect that a person who registered as having practised Dentistry in conjunction with pharmacy, if he were not at the time a registered chemist and druggist, was technically ineligible for Dental registration (see 'Chemist and Druggist,' November, 1879). This opinion may or may not be sustained. It was certainly stupid of the framers of the Act, if they meant to limit the application of this clause to persons on the Pharmaceutical Register, not to say so in so many words. Acts of Parliament are expected to be precise in their language. As a matter of fact, these assistants who were registered were engaged in the practice of Dentistry in conjunction with that of pharmacy. According to the simple words of the Act they had a right to register. No one has yet said they have not a right to register, except this counsel engaged by the British Dental Association. Suppose, however, that the Medical Council should be advised to take a similar view. Why, then, the name would be erased, and the man who paid his fee on the faith of a dozen plain and simple words in an Act of Parliament, would have spent his money uselessly. He would be very much inclined to think that he had been trapped. But, then, in addition to losing his money, he is liable, say this Association, to be proceeded against for false and fraudulent representation. Of course, we are all liable to be proceeded against for any crime known to legal lore, but it is absurd to suppose that any sane judge would permit any man to be convicted on such a charge as is here suggested. Now, we particularly ask all those persons affected to follow their own judgment on this matter. We cannot say definitely what the Dental Association, the Medical Council, or the Courts of Law might decide, and our opinion, outside of the facts which we have always put prominently forward, is worthless; but we, if in like case, would maintain to the end the simple

justice of our demand for registration on the words of the Act of Parliament. If the Medical Council should decide against this view, we would submit with a protest, for the results involved would not be worth the expense of a legal contest with such a body; and we should await with the utmost calmness the twelve months' imprisonment applicable to false or fraudulent representation, but in no sense to a case of this kind.—ED. 'C. & D.'].—*Chemist and Druggist*.

THE DENTAL JINGOES.

WE have received on several occasions, and especially during the last month, copies of a circular sent by the British Dental Association to persons who had registered under the Dentists Act as having *bonâ fide* practised Dentistry in conjunction with pharmacy, but whose names are not on the register of chemists and druggists. The cases that have come before us have not all been representative ones, but we suppose that a good many persons who registered under those circumstances have surrendered to this bit of blank cartridge. Each person so addressed must use his own discretion in the matter, and we have no wish to introduce our mere opinion into the matter. Nevertheless we would urge our readers who are threatened in this way to make themselves clear about the facts before they allow themselves to be frightened by such a circular. The British Dental Association has no executive power at all, and it seems to us that they are using rather questionable means to obtain a number of resignations. The words of the Act of Parliament are most explicit. They permitted any person to register who could truthfully declare that he had been "at the passing of the Act *bonâ fide* engaged in the practice of Dentistry or Dental surgery in conjunction with pharmacy." A person practising Dentistry and pharmacy might, or might not, be infringing the Pharmacy Act: that is not the question at issue; but he certainly could not be an offender against the Dentists Act by merely stating the bare fact as it existed. The Association has got a counsel's opinion to the contrary effect, but that is not a judicial opinion, and it is so opposed to the plain reading of the statute, that we doubt if they will even get a majority of the Medical Council to come to their view. They make their circular a little more effective than it otherwise would have been by advising their correspondents that unless they consent to the immediate

erasure of their names, they, and those who countersigned the application, are liable to be proceeded against under the 35th section of the Dentists Act, which holds out a prospect of twelve months' imprisonment. This threat is the objectionable part of the circular. Of course anybody is liable to be *proceeded against*, but it is too monstrous to talk of punishing chemists' assistants because the Dentists did not know how to draw up an Act of Parliament. The erasure of a name from the Dentists' Register is within the province of the Medical Council, and the person whose name is so erased has no remedy but from "a court of competent jurisdiction." But imprisonment for false or fraudulent declaration is not under the control of the Dental Association nor of the Medical Council, and it is too ridiculous to suppose that the most tyrannical of our judges would send a man to prison on such a legal quibble as has been raised by the Dental Association.—*Chemist and Druggist*.

THE following has been sent to us addressed to the Editor of the 'British Journal of Dental Science':

From the 'Medical Press.'

With the Editor's compliments.

SIR JOHN LUBBOCK ON THE DENTAL BILL.

To the Editor of the 'Medical Press and Circular.'

SIR,—I observe that in the address of thanks of the newly-elected Member for London University he speaks of the Dental Act in the following terms:

"The Bill has recently been subject to some adverse criticism, arising, I think, from misapprehension. It has been said that the Bill gave persons who had not a proper qualification the right to call themselves Surgeon-Dentists. This is quite a mistake. The Bill did nothing of the sort. It is also said that under the Bill persons were able to place themselves on the Register without sufficient qualification. This, however, is confined to those who, before the passing of the Bill, were actively engaged in Dentistry. The clause was drawn on the lines of the Medical Act (1858), and Parliament would never consent to deprive persons actually practising of their right to do so. The Bill was brought to me by Mr. Tomes, President of the Dental Reform Associa-

tion; was supported almost unanimously by the Dental profession, and had been submitted to and approved by the three great surgical colleges. Under these circumstances, I think you will agree with me that, having the sanction of the recognised medical authorities, I was fully justified in considering that I acted in accordance with the wishes of the medical profession. I know that there are still some few who object to the Bill, but even doctors will, we know, differ. I believe their objections are founded on misapprehension, and hope that eventually they will themselves admit that it has worked well."

I can fully believe that the honorable baronet believed that he was gratifying the surgical profession, and doing something meritorious when he passed the Act; and I think that the discredit attaching to that deplorable legislative mistake must rest with the Dental Reform Association who misled him, and with the General Medical Council and the Colleges which put their *imprimatur* on the Bill without reading it or consulting the Dental surgeons upon its provisions. Nevertheless, as one of those who protested against the measure from first to last, I feel bound to point out that Sir John Lubbock's assertions, which I have above quoted, are wholly erroneous; and that the faults of the Act cannot be excused on the ground which he puts forward in its defence. To show this, I beg you to print the following letter, addressed by me to the 'Standard' some weeks ago, in reply to a letter by Mr. Tomes, but, I believe, suppressed by that journal:

"To the Editor of the 'Standard.'"

"SIR,—Permit me very briefly to state a few facts in reply to the letter of Mr. Tomes, published in your journal, in which that gentleman submits that Sir J. Lubbock is 'entitled to the gratitude and support' of the medical graduates of the London University for passing the Dentists Act. The facts I desire to state are as follows:

"a. That by that Act every person of any grade whatever, educated or not, was given liberty to enrol himself as an officially and legally recognised Dental practitioner on the declaration, by himself, respecting himself, that he is '*bond fide* in the practice of Dentistry.'

"b. That, under the permission thus given, 4806 persons obtained admission to the profession of Dentistry, of whom only 531 possessed any recognised medical, surgical, or Dental qualification whatever; 2707 were *soi-disant* Dentists who presented no evidence of competency but their own opinion of themselves; and 2049 were chemists and chemists'

assistants who, presumably, had no real knowledge of Dentistry at all.

"c. That by section 3 of the Act any of these chemists' assistants, or self-dubbed Dentists, may use 'any name, title, addition, or description implying that he is registered under this Act, or that he is specially qualified to practise Dentistry.'

"It is held that this phrase includes the title of Surgeon-Dentist, and thus Sir John Lubbock has given the right to use this name to nearly 5000 persons who do not pretend to have had any surgical education whatever.

"d. That the admission of these unqualified thousands was effected by Sir John Lubbock intentionally and avowedly to disarm the opposition of the chemists and druggists, and done in spite of the most energetic protests on the part of the surgical profession.

"Finally, I take leave to deny, unequivocally and emphatically, that there ever was a precedent for this buying off of opposition by the wholesale annexion of uneducated vested interests.

"The Medical Act admitted no one save the holder of a recognised diploma, or a person who had been over forty years in actual medical practice. The Pharmacy Acts of England and Ireland admitted no one but an examined pharmacist, and I am not aware of any legislation, medical, legal, or ecclesiastical, which ever proposed to confer an official guarantee of competency upon a multitude of persons, the great majority of whom would, I imagine, not pretend to any qualifying education whatever.

"This Sir John Lubbock has done, and it may be doubted whether thereby he has acquired a claim to 'the gratitude and support' of the medical graduates."

Surgeons find themselves now officially and legally bracketed as practitioners with over 4000 persons who don't possess and never did possess any recognised guarantee of their competency, and a majority of whom are, admittedly, altogether ignorant of surgery in any form. So be it.

We must bear our wrongs, having no remedy for them, but it is really too much to ask us to "kiss the rod," and return humble thanks to Mr. Tomes, Sir John Lubbock, and the Dental Reform Association, who made Dento-surgical practitioners of this motley multitude.

I am, Sir,

Yours, &c.,

ARCHIBALD H. JACOB,
M.D. Dub., F.R.C.S.I.

SIR JOHN LUBBOCK AND THE DENTISTS.

ON the occasion of his uncontested election for the University of London last week, Sir John Lubbock alluded to his action with regard to several bills affecting the reforms of the medical, surgical, and Dental professions which he had succeeded in passing during his parliamentary career ; and, specially referring to the most recent enactment in connection with Dental practice, he vindicated the respect shown towards the vested interests of those previously practising Dentistry, although unqualified by any surgical diploma. The bill was brought to Sir John by Mr. Tomes, F.R.S., a surgeon of considerable eminence practising Dentistry, as a measure approved of almost unanimously by the Dental profession, and sanctioned by the three great surgical colleges of the United Kingdom, and the opposition to it shown by a few eminent medical men, under some misapprehensions at first as to its tendencies, had been subsequently withdrawn by the majority of them after closer inquiry.—*Telegraph*.

A DENTIST ON TRICYCLES.

TRICYCLES *versus* HORSES.

SIR,—Some time ago a very interesting letter was published in this Journal concerning pedo-motive machines in the place of horses, and signed "Vacuus Viator cantabit coram Latronibus." By many readers it was thought to have too much *couleur de rose* ; but still, from the many letters that have appeared since, it seems the ball has been set rolling, and the cost of horse flesh, with its accessories, has led many to seriously contemplate the possibility of employing the bicycle or the tricycle in country practice. I am a small and not a strong man, and I am accustomed to speak the truth. On these very grounds I believe my remarks will be not only of interest, but of value to some.

Bicycles, I think, are not adapted for the purpose for the following reasons:—1. Agile young men only can ride them. 2. The best riders are liable to dangerous falls. 3. The rider cannot stop to speak to a person in the road, but must either dismount or fall off. 4. Good roads and good weather are almost essential for the bicycle. 5. There is much trouble in learning to ride them. The tricycle I advise has not one of these drawbacks.

Many, however, consider there is a loss of dignity in riding these machines. A similar argument has often been objected against the use of new and ill-understood inventions; and he was a bold but a sensible man who first walked down the Strand in the rain protected with the then new-fangled thing now known as an umbrella. That man was laughed to scorn, but he was right.

I have experience of nearly all the tricycles in the market, and give my testimony in favour of the new "Salvo" by Starley, of Coventry; this machine is a great improvement on the earlier "Salvo" he brought out; and I consider it outdistances by a long way every other tricycle. The driving wheels are forty-six inches high, and the machine is thirty pounds lighter than the first "Salvo." My country is hilly, but I never dismount, and can easily ascend gradients 1 in 18, or even steeper. I can get an average pace on the turnpike road of eight miles an hour up hill and down as it comes. I have travelled at the rate of twelve miles an hour, but this is a racing speed, and not required.

As I practise a specialty, and my patients come to me instead of me going to them, my "Salvo" is not much used actually in practice; but it is most easy to ride, requires no trouble to learn, and is ready at any instant for use. Moreover, you are perfectly secure from accident or upset, perhaps more so even than with a pony carriage. My "Salvo" which I first rode had fifty-inch driving wheels; and in adding up the various runs I had made with it, I found I had soon done a thousand miles. The new "Salvo" I ride usually in the evenings, and generally go from ten to thirty miles or more. One can carry thirty pounds of luggage if needed; and the machine is fitted with an oil lamp, which gives a brilliant light and is not jerked or put out by jolting over a rough road, which is a great thing for night travelling.

I fully believe when these machines are known, their use will become far more general than at present. It was from reading the letter to which I have already referred, that I was induced to purchase one of these machines; and I have never regretted having done so.—I am, &c., W. A. HUNT, L.R.C.P. Lond., &c.—*Brit. Med. Journ.*

Yeovil.

FAILURE OF THE AUDIPHONE.—Tests of the audiphone, as applied by Messrs. Sharp and Smith, of Chicago, have failed in every one of 150 successive cases of deafness. The use of the instrument was attended by no benefit whatever.

Mr. Fletcher (Warrington) writing to 'Nature' says :—" So far as my own experience goes any audiphone is a total failure in about two thirds of the cases of deafness.

31/97. K.—The change occurring in vulcanising india rubber is, we suppose, a molecular one, occasioned by the introduction of the sulphur, but we are not acquainted with any theory which explains the change. We are sorry you do not agree with us as to the right of a chemist who has extracted teeth having had a right to register as a Dentist. The promoters of the Act were obliged to make that concession, or they would not have got it passed. The idea of challenging the right, too, has never been countenanced in any quarter of influence.—*Chemist and Druggist*.

Dental News and Critical Reports.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN,
40, LEICESTER SQUARE.

ORDINARY MONTHLY MEETING, JUNE 7TH, 1880.

ALFRED J. WOODHOUSE, Esq., President, in the Chair.

Mr. Leonard Matheson, of Oxford Road, Manchester, was balloted for and elected, and Mr. Charles Vincent Cotterill, of Rochester, was proposed for election at a subsequent meeting.

Dr. WALKER read notes of a case of hæmorrhagic diathesis which had been under his care at the Westminster Hospital. The patient was a man, aged 38, who stated that he had always bled a good deal from slight cuts—as in shaving—and that when young he had been subject to profuse epistaxis. No hereditary predisposition could be traced. When nineteen years of age he had the left upper second molar extracted; one of the fangs was broken off. He was laid up for a week with hæmorrhage, and the actual cautery was used. When thirty-three years of age the first left upper molar was extracted at St. Thomas's Hospital; it was also broken. Bleeding continued at intervals for seven weeks; he was an in-patient for five weeks; perchloride of iron was used both in solution and crystallised, and the actual cautery was repeatedly applied. For several months after leaving the hospital he was subject to occasional bleeding, sometimes

profuse, and he had had slight attacks until quite recently from the same spot. During the night of February 27th, a kind of tumour formed on the gum at the seat of the extractions, accompanied by local tenderness and pain in the face. On March 3rd he came to Dr. Walker; the tumour was found projecting in front of the wisdom tooth; it was dark, rather soft, and about the size of a cherry, somewhat resembling a myeloid epulis. During the night it burst, "about a cupful of blood and matter" escaped, and when the patient again came to Dr. Walker (on the 10th) only some shrivelled mucous membrane and blood clots remained. Dr. Walker now extracted the stumps of the second molar and the wisdom tooth, which was very carious; the patient was admitted into the hospital and the sockets were plugged with cotton wool soaked in Liq. Fer. Perchlor. The bleeding returned next day but was checked by the insertion of fresh plugs, and after that there was no further hæmorrhage. The patient was discharged at the end of a week, but attended several times as an out-patient; he had, however, no return of his trouble.

Mr. CHARTERS WHITE had always found perchloride of iron of very little use in arresting hæmorrhage; he had obtained much more satisfactory results from the use of Richardson's styptic colloid.

The PRESIDENT said he had found the styptic colloid a most useful preparation.

The SECRETARY showed (for Mr. Bedmore, of Exeter) a flask of simple but very ingenious construction; it seemed well adapted for its purpose, and could scarcely get out of order.

Mr. PERCY MAY showed a model of the mouth of a patient aged 18, the temporary incisors had been extracted at ten years of age; a few years later, a couple of supernumerary teeth came through in this space, and a few months ago a very peculiar tooth appeared, which Mr. Charles Tomes characterised as an odontome. Mr. May removed this and the supernumerary teeth to make room for the true permanent incisors which were only now in process of eruption.

Mr. E. CANTON read notes of some cases illustrating the fact that carious teeth were not an uncommon cause of disease in distant parts of the body, and that their relation to these diseases was frequently overlooked. It was, for instance, well-known that imperfect mastication, due to carious teeth or to the absence of teeth, was not an uncommon cause of diarrhœa, but it was not generally recognised that *constipation* might result from this cause; yet of this he could relate many instances. Thus, a gentleman, aged 40,

was brought to him on account of supposed disease of the rectum. The patient had suffered for some time from obstinate constipation; the bowels never acted without purgative medicine, and even then there was always a feeling as if something remained behind. Mr. Canton could find no stricture of the rectum, but he found that the patient had lost his lower molars on both sides. He therefore advised a lower denture; this was put in and as proper mastication became possible, the patient ceased to suffer from constipation, and the purgatives were no longer required.

A lady, aged 40, thin and pale, was brought to Mr. Canton for supposed enlargement of the spleen; she had, indeed, a large lump in the left side of the abdomen, but Mr. Canton soon decided that this was due to an enormous accumulation of fæces in the descending colon. The patient had suffered much from indigestion, and an inspection of her mouth showed that proper mastication was impossible. Mr. Canton advised a course of purgative medicine, and then that she should have a set of teeth. Under this treatment she got perfectly well. One of the symptoms which this lady complained of was numbness down the left leg; this was due to the hard mass in the sigmoid flexure and rectum pressing upon the origin of the sciatic nerve, and this led him to remark that bad teeth, imperfect mastication, and consequent constipation, was a chain of causes which frequently gave rise to sciatica. The rectum passed down obliquely across the upper part of the left sciatic nerve, and sciatica was most common on that side. He was in the habit of ordering the following pill in such cases:

R. Calomelanos, gr. x;
Ol. Tigllii, gtt. j;
Misc. panis, q. s. M. ft. pil. ij.

The second to be taken six or seven hours after the first.

A frequent result of this treatment was the removal of a large quantity of fæces, even though no accumulation had previously been suspected. Purgatives will thus cure the disease for the time, but as it is primarily due to faulty mastication, and this is generally due to bad teeth, a new set is the only remedy which will cure the patient entirely.

In the next case the same causes produced somewhat different effects. Mr. Canton was sent for to see a gentleman, living at Brixton, who had some years previously consulted him on account of habitual constipation, which had been completely relieved by some dinner pills which had then been prescribed. He was now suffering from clonic spasms affecting the muscles of the front and inner side of

the thigh; these were so severe as entirely to prevent him from walking. His general health was good; he had no other symptom of nervous disease, and as the only muscles affected were those supplied by the anterior crural nerve, Mr. Canton was induced to look for some local cause for the spasms, and soon found a hard, dull swelling in the right iliac fossa. The patient, thinking himself cured, had left off his pills, and a gradual accumulation of feces had taken place in the cæcum. A course of purgative medicine brought away an enormous amount of solid matter. As the bowels were emptied the spasms gradually passed off, and the patient got perfectly well. This patient, also, had no teeth, which was really the cause of all his troubles.

The imperfect nutrition which resulted from bad teeth, or the absence of teeth, often caused a general state of weakness, which rendered the patient an easy prey to any disease to which he might be exposed. In women this low state of nutrition was generally accompanied by barrenness. Thus, a young lady, who had been married some time, but had no family, was brought to Mr. Canton by her husband; she complained of nervousness, indigestion, bad nights, and a constant feeling of lassitude and debility. On examining her mouth Mr. Canton found that her teeth were very bad, and advised her to have a set made at once. This was done, the lady got stout and strong, soon became pregnant, and eventually had several children. Another case was that of a gentleman, 45 years of age, who had been under the care of several eminent physicians, and was said to be dying of "atrophy." Having consulted Mr. Canton some years previously, he now came to him again, but evidently without much expectation of benefit. Mr. Canton examined him carefully, but could find no evidence of any organic disease; the patient's teeth were, however, quite useless for mastication, he therefore advised him to have a set made. A few months afterwards the patient returned quite restored to health; he had taken no medicine, but got the teeth, and by the help of these and careful attention to diet, &c., had gradually recovered flesh and strength.

Mr. Canton concluded by relating some cases confirmatory of the conclusions arrived at by Dr. Brunton in the paper which he lately read before the Society. In one instance, a boy, aged 19, was cured of epilepsy by an incision exposing the crown of a retarded wisdom tooth, and in another paralysis of the left leg in a young lady appeared to be due to a similar cause.

At the conclusion of Mr. Canton's paper the PRESIDENT suggested that, as Mr. Mummery was about to read another

on a kindred subject, it would be convenient to postpone the discussion of Mr. Canton's very interesting series of cases, and to discuss the two papers together. He therefore called upon Mr. Mummery to read his paper "On Some Cases of Nervous Affections Originating in Diseases of the Teeth."

Mr. MUMMERY said that having been unable to be present at a recent meeting at which the relation of diseases of the teeth to affections of the nervous system had been the subject of discussion, he had been prevented from bringing before the Society a remarkable case in which strabismus and blanching of the hair had resulted from disease in two molar teeth. He therefore took the opportunity of relating the case, and had added a few others out of a number which he had recorded during his professional career. He thought that by publishing the accumulated testimony of many observers with regard to the reflex nervous influence of diseases of the teeth, a clearer light might be thrown upon many obscure cases which had hitherto baffled the skill of eminent medical practitioners, and that much practical good might thus be affected.

He was consulted in January, 1878, by a young lady, on account of severe neuralgic pain affecting the left side of the face. Some months previously the left first upper molar had been filled with amalgam by a country practitioner. The patient had experienced much pain ever since, and had also become subject to external strabismus of the left eye, the pupil being completely hidden from view. Mr. Mummery removed the stopping, and finding the pulp exposed, applied arsenic and cleared out the roots; this relieved the pain; but as, after a day or two, no alteration had taken place in the position of the eye, he very reluctantly extracted the tooth. On the fourth day after the operation the eye had perfectly recovered its natural position. A few days afterwards the patient was suddenly obliged to leave London, and when she returned in the following November, Mr. Mummery found that the previous symptoms had returned with increased severity. He had detected, during her first visit to town, a small cavity in the second molar, and had filled it temporarily with Hill's stopping; but the patient's sudden departure prevented anything further being done. She was now suffering as before from severe facial neuralgia; she had ptosis of the left eye. On raising the lid the pupil was found to be widely dilated, and her hair, which was of a dark brown, had become perfectly blanched to the extent of fully two inches over the left temple. Mr. Mummery at once removed the tooth; by the fourth day the eye had quite recovered its normal appearance, the pain grad-

ually disappeared, but to the present day the patient retained the patch of white hair on her left temple. On splitting open the tooth the pulp of the palatal root was found to be completely calcified from the apex to its junction with the still-living coronal pulp; this, with that of the buccal root, was highly congested. He was inclined to attribute the severity of the symptoms to the irritation caused by the pressure of the calcified portion of the pulp upon the living portion.

Another instructive case was that of a lady who was sent to him on account of agonising pain in the right ear, accompanied by absolute deafness on the same side. Extraction of a carious right lower wisdom tooth put an end to the pain, and within a month after the operation the patient completely regained her hearing. A gentleman, of tall stature and fine physique, but much emaciated and weakened by suffering, consulted Mr. Mummery on account of severe pain on the left side of the face and head; he had been unable to sleep for four months, except under the influence of narcotics, and, of the numerous remedies which had been tried, none had afforded him any lasting relief. He had a remarkably fine set of teeth; they had been repeatedly examined, but no fault could be found with any of them. Mr. Mummery, however, detected slight sensitiveness on percussion in the left canine and lateral, and after polishing them carefully and using a strong reflected light he was able to perceive a slight opacity on the distal side of the lateral incisor; owing, however, to the overlapping of the canine no probe could reach the seat of the suspected caries. He extracted the tooth and then found that, just at the point where it touched the canine, there was a minute cavity exposing the pulp; the patient experienced immediate and permanent relief.

Mr. Mummery then proceeded to relate some cases in which perfectly sound teeth had been the cause of severe reflex disturbance. A young lady, aged 22, applied to him concerning some incipient caries in a lower molar, and during the interview stated incidentally that she had suffered for a long time from "rheumatism," for which she had been treated ineffectually by several physicians, and had visited German Spas, &c., without benefit. She complained of pain throughout the branches of the fifth nerves, tenderness over the spinous processes of the cervical vertebræ, and a feeling of weakness in the arms. On examining the patient's mouth, Mr. Mummery found that the lower wisdom teeth were imperfectly erupted owing to want of space, and that the upper third molars were directed obliquely outwards for the

same reason. He advised the removal of all four of the teeth, though they were perfectly sound; this was done, and within a few weeks every trace of the supposed rheumatic affection had entirely disappeared.

Another young lady, who had always been healthy and of a cheerful disposition, became, at sixteen years of age, subject to headache, complained of dull aching pain in both jaws, and was depressed and taciturn. Her teeth were perfectly free from caries, but were somewhat crowded, and on pushing a sharp probe through the gum behind the second molars, Mr. Mummery could feel the crowns of the advancing wisdom teeth. Repeated lancing gave no relief; at seventeen the patient began to be subject to epileptic fits, and as the case was becoming serious, Mr. Mummery determined to extract the four sound second molars. The patient had no fits afterwards; she soon recovered her health and cheerfulness, and the wisdom teeth came through without further trouble.

Mr. Mummery concluded by relating some cases in which severe neuralgia had been set up by exostoses on the roots of otherwise sound teeth; the first molars seemed most liable to this form of disease.

Dr. BELLISARIO, of Sydney, said the following case which had occurred in his practice resembled one of those related by Mr. Canton, except that the arm was affected instead of the leg. A young lady, aged 25, came to him complaining of severe pain in the right side of her face; she stated, also, that her right arm had been paralysed for seven months. Her teeth were perfect, except that the right lower wisdom tooth was absent. On exploring, Dr. Bellisario found that it was lying horizontally in the jaw. Under chloroform he succeeded after some trouble in extracting the tooth, having first to cut away a portion of the outer plate of the maxilla. The patient was at once freed from pain, and gradually recovered the use of her arm.

Mr. E. MOORE asked Mr. Canton at what age he thought it desirable to supply artificial teeth. Children of twelve to fourteen years of age were not unfrequently met with who had lost their molars; would it be advisable to supply teeth at such an age?

Mr. STORER BENNETT asked what was the result of the treatment in the case of the lady with paralysis of the leg?

Mr. GEORGE PEDLEY remarked that the movements of mastication greatly increased the flow of saliva, and the presence of the saliva in due proportion was almost as necessary for perfect digestion as the pounding of the food.

The PRESIDENT remarked that probably few people were

aware of the quantity of saliva which was poured out during a meal. In a case of parotid fistula with which he was acquainted, the patient would saturate two napkins during dinner with the secretion of one salivary gland.

Dr. WALKER said he had met with several cases of severe neuralgia due to exostoses on the fangs, and in one case, that of a girl aged nineteen, this was accompanied by partial paraplegia. Several teeth had to be extracted, but she ultimately made a good recovery and had since married.

Mr. MUMMERY said he should be glad if any one could throw any light on the pathology of the case of partial calcification of the pulp which he had related. He had not been able to find a similar case in any book with which he was acquainted.

Dr. BELLISARIO said that the only case resembling it which had come under his notice, was that of an Indian officer on furlough, who came to him on account of severe neuralgic pain which was ultimately referred to a lower molar. On examining the tooth he found that it was split vertically down the middle, and after he had extracted it he found that the pulp was completely calcified. The patient could not at all account for the tooth being broken, and Dr. Bellisario believed that it had been split by the pressure of the calcifying mass within.

Mr. CANTON said he could scarcely give any age at which it might not be advisable to supply teeth if the patient was really suffering from the want of them, and the health could not otherwise be maintained. As to the case of leg paralysis he could not give much information as he did not take charge of the patient.

A vote of thanks was then given to the authors of the papers and to the other contributors during the evening, and, after a few words from the President, closing the session, the meeting terminated.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

ORDINARY MEETING, MAY 19TH, 1880.

W. A. N. CATTLIN, F.R.C.S., President, in the Chair.

Instruments.—Mr. W. DONALD NAPIER brought before the Association two instruments. The first was one for the more perfect administration of nitrous oxide gas; by a very

simple arrangement, the possibility of the gas running short during an operation was entirely prevented. Instead of one wrought-iron bottle containing the gas in a liquid state being used, two bottles were placed side by side in a light frame, and so connected to each other by an iron tube that, in the event of one being emptied, gas could instantaneously be obtained from the other. The other instrument was the "Polyscope." By its use the whole mouth could readily be illuminated by the electric light, without the slightest inconvenience or discomfort to the patient; and a most perfect cautery could be obtained, when required, for the destruction of sensitive dentine, nerves, &c. The perfection to which this instrument had been brought was due to M. E. Brasseur and M. Trouvé of Paris.

Peculiar suppurative disease of jaw.—The PRESIDENT narrated the following case:—The patient, a gentleman, formerly lived in New South Wales, and, about twenty-five years ago, suffered from "sunstroke"; he was very profusely salivated, but recovered his health, married, and returned to this country. In a letter dated September, 1872, he said that, five years previously, he had a very severe attack of neuralgia in his head and face, which continued with more or less violence for about five months, coupled with intense nervous excitement. He took alteratives in the form of calomel and colocynth in small doses, black draughts, and occasionally Dover's and James's powders. At the same time, he had a carious bicuspid tooth, which could not be extracted. After some time, he tried change of air; and the pain was very much alleviated, but became chronic. Having an idea that the drainage of the village was defective, he left the neighbourhood, and went to the neighbourhood of Horsham in March, 1870. At Christmas, 1871, he had a sharp attack of what seemed to be "suppressed bile." The medical man prescribed the same remedies that he had always taken; but, two weeks afterwards, he began to feel a metallic taste, the gums all became spongy, and his teeth loose in the upper jaw. Pus formed rapidly, and culminated in an abscess on the right nostril, which was opened, but afforded relief only for a short time, as matter and bony substance continued to be thrown off. For fifteen years he had led a steady life, with nothing to complain of except occasional dyspepsia. When Mr. Cattlin first saw this patient, a thick creamy discharge was passing from beneath the gums around the necks of the teeth in the upper jaw. The disease very much resembled one described in Wood's 'Practice of Medicine,' and, as far as his experience went, was generally incurable. Perhaps it yielded more readily to the electric cautery,

or chloride of zinc, than to any other treatment. The discharge was thicker than healthy pus, and different in colour; it oozed rather than flowed from the alveolar process, and required slight pressure to remove it from beneath the gums. This kind of discharge, coupled with some inflammation of the gums, continued for many weeks, accompanied by distressing pains and neuralgia, until necrosis of the alveolus took place, and healthy teeth with parts of their sockets were removed. Nearly all the teeth in the upper jaw were lost in this way, and the gums then became healthy. There was no history of syphilis; but the patient had lived in neighbourhoods where either the drainage or water was not good, and seemed to have been peculiarly susceptible to the action of mercury. Since he was under Mr. Cattlin's care, he had suffered from paralysis of the right side and epileptic fits, from which he was now recovering.

Periodontal deposit of mercury.—Mr. H. L. JACOB (Birkenhead) related the following case:—On March 21st, 1868, he extracted for M. W. G., aged about 35, the right upper wisdom tooth, which was carious, loose, and painful. On examination, he found the sac of an old abscess round the tooth, and the substance of the thickened fungoid periodontal membrane was studded with globules of mercury, of various sizes, from a diameter of one twenty-fourth of an inch downwards; some being too small to be seen distinctly with the naked eye. The patient stated that the tooth, to his recollection, had never been filled; and that, to the best of his knowledge, he had never been subjected to a course of mercury.—*Brit. Med. Jour.*

Miscellanea.

ON PASSING EVENTS.

By "PHOSPHOR."

THE 'LANCET' AND DENTAL SURGERY.

OF late years the 'Lancet' has exhibited so much ignorance—I might say so much perversity of opinion—on all that connects itself with the political requirements of our profession that none excepting the limited clique who belong to the Society dubbing themselves "Surgeons practising Den-

tistry" will take the trouble to answer them. I was, however, led to believe that some one qualified to give an opinion on Dental surgery and pathology superintended their original articles on these subjects, but a short leader that appeared in their issue for May the 29th leads me to doubt whether any one meriting the title of a fully qualified Dental surgeon is connected with their journal. In this article they invite opinions upon a subject which I had hitherto believed was thoroughly well known to the youngest student attending a Dental hospital. They ask for information on the extraction and the replantation of teeth, or, to put it in their own elegant phraseology, "extracting teeth and putting them back in the jaw." If the writer of this inquiry had made himself acquainted with the proceedings of the two Dental hospitals now in full work, he would have learned that the operation alluded to has been, and continues to be, performed; that many able men have written on the subject, men like M. Magitôt, whom I should suppose even the 'Lancet' can hardly afford to ignore. The animus that rankles on the face of this inquiry leads me to believe that information is not the only object sought; an insult is directed against the Dental surgeon—men who carry on their profession pure and simple; but I will quote their own words:

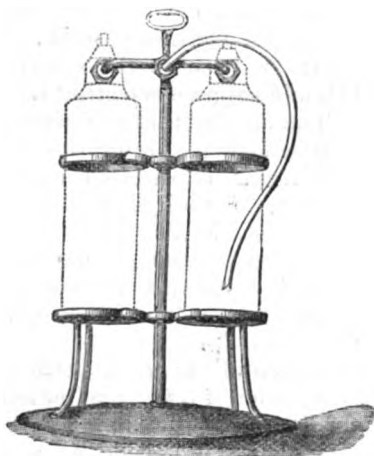
"We invite opinions—of course from qualified surgeons who are engaged in the practice of Dentistry, members of our profession—with whom alone we can discuss a question of surgery and physiology."

The licentiate in Dental surgery, not being in "our profession," has no occasion to try and enlighten our great medical dictator. The men who alone of all others are best fitted to reply are told to stand aside, as a discussion with them is out of the question. I have always imagined that the correct answer to a question was the principal object of the questioner, but it appears that before listening to the answer the status of the answerer must be inquired into. So let it be, and I read with some curiosity the replies that appear in the issue for the following week. A Mr. Jones cites a case, of which we could furnish many similar, where the tooth being knocked out, it was returned, and became again a part of the organism and not a foreign body. Dr. Blandy has, however, some novel views to ventilate and he tells us that the retention of the tooth is entirely mechanical, and proposes that a simple *porcelain tooth with fang* would be less objectionable than the one extracted. It would be, he says, no more a foreign substance than the natural tooth, and he tells us that the operation can never be an accredited one. I can only add that I trust the medical profession, to

whom this letter is addressed, will carefully read his communication. Its value is not so perceptible to the Dental surgeon, who, I believe, could successfully dispute the conclusions so egotistically brought forward.

PORTABLE GAS STAND FOR LIQUID GAS BOTTLES.

WE have much pleasure in noticing this very neat nitrous oxide gas-bottle stand, contrived by Mr. Napier and made by C. Ash and Sons. It is a very great improvement on the old arrangement. It is made of iron, bronzed, and the



unions of gun metal, the whole being light and portable, and will hold two bottles of liquid gas—which are secured in position by rings and wedges—and is fitted with a double union which connects both bottles with the face-piece. The bottle in use can thus be entirely emptied without fear, for should there not be sufficient gas in it to complete an operation, it is only necessary to turn on the other bottle. After the operation is completed, if another full bottle is not to hand, the double union can be removed and the union of the Catlin's bag fixed to the remaining bottle while the empty one is being refilled. The ordinary gas key can be used, but if desired an improved key is supplied with the stand fourteen inches in length, which enables the operator to turn the gas on or off without stooping.

LECTURES ON METALLURGY AT THE DENTAL HOSPITAL OF LONDON.

A LETTER has appeared in the 'Monthly Review,' raising the question as to whether it is advisable to continue the lectureship on metallurgy, Mr. Makins having retired. It can hardly be a question whether the thing shall be continued in the old form by a chemist, whatever his special knowledge on metallurgy. To do so would be to continue a blunder. A lecturer on Dental metallurgy must, of necessity, to fill his position properly, be first an experienced Dentist, and second a chemist, the latter qualification being subordinate to the first.

The difficulty would appear to be the possibility of obtaining a lecturer having the necessary qualifications; there are certainly very few fit to fill the position, and of those few most, if not all, have their hands too full to undertake what would be a considerable amount of work at (if reports are true) a very poor remuneration.

Failing the right man in the right place, there could hardly be two opinions as to the desirability of discontinuing a course of lectures given by a teacher practically unacquainted with the application of the subject he professes to teach.

To my mind there is one practical proof that the lectures up to the present have not been all that is necessary in the fact that they have been completed in two months. The time is sufficient for the purely chemical side of the question, but no lecturer, whatever his skill or knowledge, could do all which is required by a Dentist in the time. So little is really known on the subject, that a lecturer, if he is to fill his position, must almost create the science he has to teach. Failing this, he must go over the accepted rule of thumb and guessing system which has descended to the Dentists of the present day from their ancestors.

The right man in the right place would create a considerable revolution in the Dental world, and would bring forth a generation of Dentists who would be able to give a reason for everything they did. The study of chemistry as an exact science is of enormous value to a Dental student when he is taught to bring the precision it requires into daily and hourly use; it is necessary both to the operator and to the mechanical Dentist, and the question now is, or ought to be, not, Shall the lectureship on metallurgy be continued? but, Can the position be properly filled, or must it be given up for the present until the right man comes forward? A good Dentist and chemist is sadly needed in an influential position to

clear out the nostrums and patent medicines which are crowding on us, by the analysis and publication of their composition, and we might then hope for a generation of Dentists who would before using anything know exactly what they were using. A Dentist does not need to become a manufacturer of materials, but he does need to know, of his own knowledge and not at second-hand, what the substances he uses are composed of.—THOS. FLETCHER.

PRATT FUND.

DEAR SIR,—Herewith I enclose statement of Pratt Fund to this date.

I am, yours faithfully,

JOHN A. GARTLEY.

Amounts received and promised up to June 7th:

	£	s.	d.		£	s.	d.
E. Saunders, Esq. .	5	5	0	J. Julian, Esq. . .	0	10	6
A. Woodhouse, Esq. .	5	5	0	A. C. Eskell, Esq. .	1	1	0
J. O. Coles, Esq. .	5	0	0	W. Bartlett, Esq. .	0	10	0
J. Stocken, Esq. .	0	10	6	W. Fawcsett, Esq. .	2	2	0
— Payne, Esq. .	0	10	6	Thos. Read, Esq. .	1	1	0
A. Cronin, Esq. .	1	1	0	Messrs. Rutterford	2	2	0
J. Parkinson, Esq. .	2	2	0	W. Gray, Esq. . .	2	0	0
A. Stewart, Esq. .	1	1	0	J. A. Gartley, Esq. .	5	5	0
W. Gregory, Esq. .	0	5	0	A. L. Gartley, Esq. .	1	1	0
Messrs. Pretty & Co. .	2	2	0	Messrs. Ash & Sons	10	10	0
W. F. Forsyth, Esq. .	3	3	0	D. J. Connacher, Esq. .	0	10	6
Messrs. Bennett .	1	1	0				

Subscriptions have also been promised from J. Sheffield, Esq., R. Bradshaw, Esq., and J. Faulkner, Esq.

APPOINTMENTS.

C. ROBBINS, Esq., to be House Surgeon (*pro tem.*) to the Dental Hospital of London.

G. D. CURNOCK, Esq., to be Assistant House Surgeon to the Dental Hospital of London.

WALTER WHITEHOUSE, Esq., L.D.S. Ed., to be Dentist to the Metropolitan and City Police Orphanage.

At the annual meeting of the subscribers and friends of the Manchester Warehousemen and Clerk's Schools, held at the

Athenæum, Manchester, May 27th, 1880, Frank A. Huet, Esq., L.D.S.I., was unanimously elected a vice-president of the institution (according to the wording of the resolution) "in consideration of the valuable services he has rendered as Honorary Dentist."

Obituary.

DR. WILLIAM A. ROBERTS.

To the Editor of the 'British Journal of Dental Science.'

SIR,—For some time I have expected to see some notice in the Dental Journals of the late Dr. W. A. Roberts, of Edinburgh. I enclose a cutting from 'The Scotsman:' I am not sure of the date of issue it appeared in, but his death took place at the age of 70, on the 23rd March in the present year. I suppose the members of our profession in Edinburgh, have been so busy with the arrangements for the New School, that they have omitted to send you any notice of the loss they had sustained.

It seems to me that his long and unwearied services in every movement for the advancement of the profession deserve more prompt and worthy record, in justice to his memory, than I am qualified to give.

May I, however, as an old pupil of Dr. Roberts, ask you to insert this and the short paragraph from 'The Scotsman' in your next issue?

I am, &c.,

WM. HENDERSON NICOL, L.D.S. Eng.

2, Clarendon Road, Leeds.

"THE LATE MR. WILLIAM A. ROBERTS.—It seems but right that the late Mr. W. A. Roberts, R.C.S.L., should not be allowed to pass away without some notice, however brief. He was not one, indeed, who took much part in public affairs, though always a steady and consistent Liberal. But among professional brethren he was much respected, both for his general ability, his kindly manners, and his cheerful society. Besides being president of the Odonto-Chirurgical Society, Edinburgh, he was for three years vice-president of the Odontological Society of Great Britain, and gained for some of his ingenious inventions medals from the Royal Scottish Society of Arts. Quiet and unassuming, he had yet a large circle of attached friends, who esteemed him for his genuine worth, and loved him to the end."

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

A QUERY.

To the 'Editor of the British Journal of Dental Science.'

SIR,—Will you or “Phosphor” kindly inform me through your Journal if any part of the following conduct would be deemed unprofessional by the colleges that grant the L.D.S. diploma, and if so, would the individual acting in such a manner be censured by his college?

1st. For a Dentist to have his name and title of his profession on the fanlight of his hall door, or name plate, window, or glass of projecting lamp belonging to his residence.

2nd. To publish circulars specially approving of *his* method of “Dentistry” with or without condemning that of other practitioners, and to them attaching his name and address.

3rd. To have his hall door open.

4th. To employ men who are, or who are not registered Dentists, nor who have, or have not a diploma, to visit the Provinces and professionally personate or represent him.

I am, &c.,

A. CAMPION.

26, Haytesbury Street, Dublin.

MR. FRANK RICHARDSON AND THE IRISH DEGREE.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Allow me a few lines of space to correct an erroneous idea entertained by Mr. F. Richardson and others. The letters M.R.C.S. without any affix attached to them have *always* been considered as applying to the English college *only*. In the same way the L.D.S. represents the English title. It is *not* usual for medical men to leave out the name of the college where they have graduated, *excepting* they possess the English diploma. The question is one long since decided, and by common consent the title without any attached letter applies to England only. If further argument were needed, it is furnished by the title of F.R.S., which every one knows means Fellow of the Royal Society of England. The Royal Society of Edinburgh affix to their degree Edin, but frequently in Scotland Lond. is attached to the English title, in order that it may not be mistaken for the Scotch Society. I did not intend to apply the word “Royal” specially to any college, indeed, it is a title of questionable value, and seems to be made use of without much discrimination, as, for instance, when applied to public

places of amusement, such as theatres, &c., all of which seem now to prefix Royal to their titles, which they seem to be privileged to do if ever visited by Royalty. From the pertinacity with which Mr. Richardson keeps to his original lettering, he will lead others to believe that his Irish title is distasteful to him.

I am, &c.,

PHOSPHOR.

L.D.S.R.C.S.I.

To the Editor of the 'British Journal of Dental Science.'

SIR,—I fully agree with your correspondent, Mr. Frank Richardson, who wrote in your last issue a reply to "Phosphor" on his previous critique.

The fact is, that the Irish College was chartered the "Royal College of Surgeons in Ireland," and its Dental licentiates must therefore be correctly designated, as they are admitted, "Licentiates in Dental Surgery of the Royal College of Surgeons in Ireland," or, abbreviated, L.D.S.R.C.S.I. This is simply a *reductio ad absurdum*.* It would be a great pity for any to deviate from this—the legitimate and proper abbreviation—especially now, when there are so many bogus degrees abroad, and we are anxious that the public shall easily recognise a genuine qualification from a spurious one.

Further, I would say, in vindication of the status of the R.C.S.I., that its ordinary diplomas for the degree of Fellowship and for the usual surgical licence are obtained even with more difficulty than those of the English College, although its graduates are not so numerous, because its reputation is not so extensive; this is a known fact in Ireland.

Regarding the examination for the special Dental licence, I can positively affirm that it is emphatically what is represented by the syllabus—a thoroughly practical list up to August, 1881, and the examiners intelligently apply their questions, even on somewhat theoretical points, to cases which might occur in actual practice. The *vivâ voce* part will soon find out whether a man is clearly entitled to the name of Dentist.

My object in mentioning this is with a view to correct wrong impressions caused by the loose assertions made by those who try, interestedly, to depreciate the L.D.S. diploma of this college, and, having recently passed this examination, I can vouch for the statement made, as well as warn intending candidates to "prepare" before "venturing."

I am, &c.,

AN ENGLISHMAN, FOR SOME YEARS
A RESIDENT IN IRELAND.

* Does our correspondent really understand what he has written?—ED.
'B. J. D. S.'

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your last issue I was glad to see the letter of "Festina Lente," and also the remarks which he made respecting the postal system as conducted by Mr. J. J. Musgrave, of Liverpool, whose method is one which commends itself to all who have had anything to do with it. Gentlemen who are anxious to obtain the L.D.S. while the doors are open, ought to avail themselves of it without delay, as most practitioners could, for such an object, by straining a point, give two or three hours daily from active practice for three or four months (in some cases less) in order to gain the diploma; for certainly under his system and guidance such an object is easy of attainment.

Yours, &c.,

L.D.S. I. & G.

Rosomond Street East,
Oxford Street, Manchester.

L.D.S., SINE CURRICULO

To the Editor of the 'British Journal of Dental Science.'

SIR,—The letter of "Festina Lente" in your last issue I perused with much pleasure, and from personal experience am glad to be able to endorse all contained in it. Being far away from any hospital or medical school I certainly felt a great difficulty in setting about preparing myself for examination, and being in active practice could ill afford to spare much time. Seeing Mr. Musgrave's "postal system" advertised I communicated with him, and the assistance thus obtained enabled me to present myself for examination with success, and this before I had been reading under his direction many months. Comment on facts like these would be taking up your valuable space unnecessarily. I only hope that all our respectable practitioners "will go and do likewise" ere it is too late.

Yours, &c.,

A COUNTRY PRACTITIONER.

THE FOUR COLLEGES GRANTING DIPLOMAS FOR THE L.D.S. SINE CURRICULO.

To the Editor of the 'British Journal of Dental Science.'

SIR,—For the guidance of many friends and other gentlemen who are now preparing, or thinking of doing so, for one or other of the examining boards, I have obtained the requirements of each college to date, and as a qualification is now a necessity, I have pleasure in giving the following information:

London and Edinburgh.—The written examination at each of these Colleges comprises General Anatomy and Physiology, General Pathology and Surgery, Medicine and Materia Medica, Chemistry, with Metallurgy, Dental Mechanics, &c.

The oral examinations are of a most practical and searching character, comprising the several subjects included in the curriculum of professional education, and are conducted by the use of preparations, casts, drawings, &c. Candidates for the London examination (only) have to undergo a practical examination in filling teeth with gold, and must have been in practice prior to September, 1859.

Glasgow and Dublin.—The written examination at each of these Colleges are nearly the same as at London and Edinburgh, with one important exception, viz. that they confine their examinations strictly to the head and neck. Glasgow includes Chemistry; Dublin leaves it alone.

The oral examinations are much alike. I have friends who, during the past twelve months, have passed both examinations, and on comparing notes have found Glasgow sometimes the most difficult, and at other times Dublin has been the most searching. I am persuaded that any candidate passing either of these Colleges at the present time could pass London and Edinburgh, but for the examinations at the latter places extending to the general anatomy of the whole body. I think it is quite enough for gentlemen in active practice to get up thoroughly the head and neck, without going over the whole body, for after twenty-five years of hard work I found it quite sufficient, and almost more than I could manage, yet feeling anxious to separate myself from the "ignoble crowd" who claimed registration because they "pulled a tooth" once a week, I put everything in the shape of an obstacle aside, got extra help, and feeling myself ready, I took the packet to Dublin on the 1st of May last, intending to have a week's quiet rest at the beautiful little watering place of Bray before presenting myself before the Examiners at Stephen's Green on the 10th and 11th. On my arrival at Dublin I called upon one of the lecturers at one of the medical schools, told him I was up for the little Dental examination. He smilingly said "You will no doubt find it quite big enough," and advised me if I wished to do it, not to lose a moment's time, but apply myself with all diligence until the following Saturday; had I not done so I am afraid I should not have been able to satisfy the Examiners at the oral examination on the second day, which, as the doctor said, was "quite big enough;" certainly it was, as all the candidates said, "a testing time," too much

so for those who did not hear the congratulatory expressions of the President.

I am, &c.,

CALCIUM.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your last issue Mr. Richards accuses me of making loose and unconsidered statements, and wishes to know the difference between the examinations of Edinburgh and Glasgow, and in what respect the latter is below the standard of the former. If Mr. Richards had taken the trouble to send for a syllabus of each of the above licensing bodies before he took up arms so hastily, and cast such aspersions on my veracity, he would have found that candidates for the L.D.S. Edinburgh are expected to possess a knowledge of the general anatomy of the whole body, &c., while for Glasgow it is only necessary for them to be well-up in the head and neck (though in some medical schools this includes the thorax).

From personal experience I can testify that the examination for the L.D.S. of Glasgow is most searching, and the diploma is not to be obtained except as the reward of close application and hard grinding, but while I was a student at the Liverpool Medical School I learned that Edinburgh, as the oldest licensing body, ranked before Glasgow, both as regards the medical and Dental qualifications. My motto is Give honour where honour is due.

Yours, &c.,

J. J. MUSGRAVE, D.L., F.P.S.G.

1, St. Domingo Vale, Liverpool.

To the Editor of the 'British Journal of Dental Science.'

SIR,—You would greatly oblige me by publishing the following query, which some of your readers may be able to answer. How would you translate the English L.D.S. into French or German?

The French word "licencié" means a graduate who has yet to submit to another examination before he be able to practise. So "licencié en chirurgie dentaire" would imply the idea of a man who is not quite a Dentist yet.

As I intend to pass the examination *sine curriculo* (when and where?), and shall be obliged to procure a legalised German or French translation of the diploma, this question is of interest to me.

I thank you in advance, and have the honour to be,

Yours respectfully,

WEBER.

Luxemburgh (Grand Duchy).

To the Editor of the 'British Journal of Dental Science.'

SIR,—I beg to enclose you the following cutting from a local paper:

"**ARE FALSE TEETH A NECESSARY?**—Mr. Edward Gower Flint, of Solly Street, sought to recover £1 5s. from William Ryalls, spring maker, of Duke Street, Park. The plaintiff had supplied false teeth to the wife of the defendant, who had refused to pay for them. He now said he knew nothing about the transaction. The Judge held that false teeth were not a necessary, as people could eat with their gums, and gave a verdict for the defendant."

I think you will agree with me in saying that the acme of absurdity has been reached by the above childish decision.

I am, &c., W. F. BRINDLEY.

Sheffield.

THE DENTAL LICENTIATES AND THE 'MEDICAL DIRECTORY.'

To the Editor of the 'British Journal of Dental Science.'

SIR,—Contradicting an editor in his own paper always appears to me very much like bearding a parson in his pulpit, but I know full well that standing on your own domain all you desire is to elicit truth and to support measures calculated to benefit and to raise the profession. I am compelled, therefore, to question the correctness of the conclusions you have come to on the important subject of our position in the 'Medical Directory,' and I must say I am prepared to uphold the statements I have made, that, as far as London is concerned, in proportion to their number, the Dental licentiates support the Directory as loyally as the members of the medical profession. I cannot see any reason why the L.D.S. degree should not take its place in the body of the book in the same way as the licentiates in midwifery. My suggested abbreviations, although they cause you to smile, are only in accordance with the original directions when the work was compiled, to allow but three casual communications to appear after each name. The subject is one of so much importance that it cannot end here, and although I am quite aware that "Dentists" as a body are disgracefully lukewarm, yet were Mr. Hill now publishing a list of the Dental licentiates he would have a very different body to work for, not only as regards their numbers, but their individual interest, in seeing themselves properly represented before the world.

I am, &c., PHOSPHOR.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under :
 Twelve Months (post free) 14s. 0d.
 Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (peanny) stamps.
5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

ANSWERS TO CORRESPONDENTS.

- "OXONIAN."—Yes, J. J. Sylvester, F.R.S., Professor of Mathematics in the John Hopkins University, Baltimore, is the brother of Mr. G. J. Sylvester, Dentist, of Worcestershire.
- "E. C." "L.D.S.I."—Many thanks, but it was published in our last issue. We are always obliged by having our attention drawn to any Dental matter.

Communications received from Messrs. William Henderson Nicol, Cornelius Robbins, "Phosphor," — Weber, W. J. C. Miller, G. J. Sylvester, F. H. Elwood, J. J. Musgrave, "Calcium," Thomas Hall, E. Clark, F. Weiss.

BOOKS AND PAPERS RECEIVED.

- 'Glasgow Medical Journal.'
- 'L'Odontologia.'
- 'Pharmaceutical Journal.'
- 'Chemist and Druggist.'
- 'Annuaire des Spécialités Médicales et Pharmaceutiques.'
- 'The Independent Practitioner.'
- 'Catalogo Descrittivo del Mures Dentale.'
- 'Missouri Dental Journal.'
- 'Oral Deformities.' (Kingsley.)
- 'Deutsche Vierteljahrsschrift für Zahnheilkunde.'
- 'El Progreso Dental de la Habana.'

NOTICE.—We desire that it may be clearly understood that our pages are open to all for free expression of their views on matters connected with our profession. We only ask for terseness of expression and MODERATION OF TONE.

When otherwise, unobjectionable difference of political or other opinion will never be regarded by the editor as a disqualification for admission to the pages of the **BRITISH JOURNAL OF DENTAL SCIENCE.**

British Journal of Dental Science.

No. 299.

LONDON, JULY 1, 1880.

VOL. XXIII.

Dental Surgery and Medicine.

ON THE VALUE OF ARSENIOUS ACID IN THE TREATMENT OF DENTAL CARIES.*

By Dr. A. COMBE, of Paris.

(Continued from page 572.)

THE best mode of destroying the pulp is, then, by means of caustics, and amongst these we have to choose one which shall be insoluble in the saliva and shall not act chemically either on the dentine or on the enamel, but shall, nevertheless, act energetically on the pulp. Amongst the caustics in common use there is but one, arsenious acid, which answers to these requirements. It is easily applied, and is certain and thorough in its action; it possesses, it is true, poisonous properties, which might be thought to render it unsuitable for use in the mouth, but the quantity required for cauterisation of the pulp is so very much less than the minimum poisonous dose, that even if it should be accidentally swallowed no harm could result. Still, in applying it to a carious cavity certain precautions are called for which should never be omitted.

A difference must be observed in the mode of applying arsenic to the pulp according as that organ is simply exposed, as for instance in a case of fracture, or is also inflamed. In the first case, when the pulp, though it has been roughly exposed, as yet gives no evidence of any inflammatory change, if the injury is such that no repair can be hoped for, the destruction of the pulp is clearly indicated, and arsenic must be regarded as the most efficacious agent for the purpose. This may be easily effected either by one or by several applications, for it is worthy of notice that under

* 'De l'Acide Arsénieux dans ses applications à la thérapeutique de la Carie Dentaire,' par Anthelme Combe, docteur en médecine de la Faculté de Paris. Delahaye: Paris, 1879. We have to thank George Skliros, Esq., for bringing this paper under our notice. We have had it translated specially for this Journal.

these circumstances the organ will disappear without giving rise to any pain. This is especially observable when the arsenical application is made immediately after the exposure, before the pulp has had time to become inflamed by the contact of foreign substances. If, on the other hand, the application is not made till later, at the end of several days perhaps, when signs of congestion are already manifest, the pain is more or less acute according to the amount of inflammation present. And this brings us to notice the practice of using sedative applications before proceeding to resort to this caustic. Let us take as an example one of the most common cases met with in practice. Penetrating caries has already given rise to attacks of pain, the intensity, duration, and character of which demonstrate clearly the existence of inflammation of the pulp. Of course arsenic would have under these circumstances the same destructive effect which it would have on the organ simply exposed, and cases do occur in which this inflammation of the pulp with its attendant pain does not yield to treatment. The time which has been spent in trying to reduce it has then been wasted, the patient has suffered for nothing, and we have at last to attack with arsenic the still inflamed pulp, which might just as well have been destroyed at the first consultation. Under these circumstances it is as well, in the expectation of very acute pain, to give the patient an opiate, and if necessary to have recourse to the subcutaneous injection of morphia.

But it must be remembered that this is an exceptional case, and that which we have mentioned above concerning the painlessness of an arsenical dressing on a healthy pulp indicates to us the course of treatment which we ought to pursue in the case of the inflamed pulp. Given then a case of inflammation of the pulp as the result of penetrating caries, the application of arsenic should be preceded by a more or less extended course of treatment with sedatives, the object being to procure for the patient a state of comparative ease before compelling him to undergo the cauterisation. Besides the relief to the patient, these applications have a special influence on the nerve, and that is to reduce as much as possible, and even to get rid of, the inflammatory symptoms, and to bring back the organ as nearly as possible to its natural state in which, as we have seen, its destruction by arsenic causes no pain.

I need not stop to give the details of the treatment by which the gradual resolution of an inflamed pulp may be brought about. We have recourse generally to narcotic and anæsthetic remedies; occasionally some of the superficial

caustics, as carbolic acid, are useful. Having effected this as well as we can the pulp must now be submitted to the destructive action of arsenic.

There is one class of cases which we ought first to mention. A succession of painful exacerbations accompanying inflammation of the pulp may result in the mortification, or purulent disintegration, of the organ ; and when, after a few sedative applications, we seek for the exposed surface of the pulp at the bottom of the cavity, we find that it has disappeared ; the symptoms subside at the same time, and instead of being obliged to destroy the pulp by means of arsenic, we find that it has already undergone spontaneous destruction as the result of inflammation.

Excluding these exceptional cases, the pulp presents itself at the bottom of a cavity under several different conditions. Sometimes the stylet meets with it at the bottom of a narrow chink, sometimes it may form a sort of hernial projection through a narrow communication with the pulp cavity. In other cases the orifice of communication is larger and a broader surface of the organ is exposed. These differences require in practice corresponding modifications in the mode of applying arsenic. When the orifice of communication is very narrow the application should be made at first only on the point which is exposed, the opening must then be enlarged sufficiently to enable one to carry out the cauterization effectively. This little operation, which would be very painful at the beginning of the treatment, may thus be performed at the second sitting without causing any very acute suffering.

The number of arsenical applications which may be necessary to destroy a pulp will necessarily vary according to the size of the organ. Thus, other conditions being the same, the pulp of an incisor or canine will be destroyed quickly on account of its small size and compact form, whilst the pulp of a molar will be more slowly disposed of. In this connection I ought to mention that the pulp of the bicuspsids, on account of its flattened shape, its radicular subdivisions, and the frequent presence of partitions, appears to be specially difficult to destroy.

Again, there are circumstances in which the arsenical preparations should be repeated as often as possible ; such as in cases of hypertrophy, or tumour of the pulp, which sometimes complicates penetrating caries. In such cases I am in the habit of removing the greater part of the mass either with a sharp cutting instrument or with a hook, so that only a few applications of arsenic are required to destroy the remains of the organ.

a dressing, turn the bottle upside down and back again; a certain quantity of the powder will then be found adhering to the lower end of the stopper, which should be slightly roughened. On taking out the stopper it will be found covered with a uniform layer of the powder, and this will be the finest that there is in the bottle. By wiping the surface with a pellet, or morsel of cotton wool, we can easily estimate within a little the necessary dose."* By carefully weighing wads of cotton wool thus charged, we have ascertained that the quantity thus taken up never exceeds three milligrammes ($\frac{1}{32}$ gr.).

Tomes gives the same instructions as regards the dose, but he does not tell us what precautions he recommends to make sure that the quantity shall not be exceeded.

The situation, &c., of the exposed pulp having been carefully ascertained, we take on the end of a probe a small wad of cotton wool of a size proportionate to the extent of the surface which has to be exposed to the action of the caustic, but always very small; moisten it slightly with some alcoholic solution, and charge it, in the way we have just described, with the quantity of arsenic which the nature of the case may seem to require. This having been carefully applied over the exposed part of the pulp, we secure it in position by placing over it a layer of cotton wool soaked in some resinous solution, such as tincture of benzoin; the benzoin is precipitated in the meshes of the wool on contact with the saliva, and forms an impenetrable stopping which keeps the arsenic in place and prevents its becoming dissolved and escaping into the mouth.

We have supposed in this case that a considerable surface of the pulp was exposed, but we have seen that it not unfrequently happens that the opening in the pulp cavity may be very narrow. It is true that under these circumstances the proper treatment generally is to enlarge the opening, to expose the organ thoroughly, and thus to place the caustic in a condition to act effectively; for nothing is more painful than to apply arsenic when the opening into the pulp cavity is very small—a mere pinhole, as it were. The quantity which penetrates is then only sufficient to act as an irritant. The result then is that the pulp swells, projects through, and is strangulated by, the margins of the opening, and gives rise to most acute throbbing pain. But in other cases, on exploring through a narrow aperture, we come upon a pulp which has already diminished in size, and which is not likely to be extruded through the orifice; it is then better, instead of applying the arsenic on a firm wad, to twist a few filaments

* Magitôt, op. cit., ed. 1872, p. 196.

of cotton wool loosely round the point of a very fine probe, charge it with arsenic, and apply it to the spot; it should then be covered with some protecting stopping as described above. In the case of a cavity situated on the masticating surface of a tooth this application is easily effected, but when the cavity is situated on one of the lateral surfaces it is necessary to be more careful, for, as we shall see, it is especially in these cases that accidents occur through carelessness or forgetfulness of the precautions which we enjoin. We must specially insist upon the use of some protecting stopping; we should tell the patient to be careful not to bite upon the side on which the tooth is which we have operated on, and we must not allow him on any account to remove the stopping, even though the pain which it may cause should be very intense.

The arsenic does not begin to act immediately. In general no effect is produced until about half an hour after the operation, when it begins to show itself by the occurrence of a very variable amount of pain; we shall have to say more about this symptom presently.

The stopping should be kept in place for twenty-four hours. If at the end of this time the pulp is not completely destroyed, which is readily ascertained by seeing whether the contact of the stylet causes any pain, we must gently remove the eschar and proceed to a second application. Sometimes we are obliged to repeat the operation three or four times.

It sometimes happens that after a series of these applications we do not succeed in producing the complete insensibility which we desire; exploration of the cavity no longer causes the patient any acute pain, but he complains that hot and cold things always cause him discomfort. These symptoms indicate that some fragments of pulp remain shut up behind a partition of dentine, which prevents its being reached by the caustic; we have then to detach or break down this wall and repeat the application of the arsenic.

Then, when the pulp cavity is entirely cleared of its contents, we have to deal with the prolongations which occupy the radicular canals. These prolongations may be easily destroyed by applying the arsenic *en forme de mèche*,* after

* *Application en mèche* or *en forme de mèche*: there seems to be no English equivalent for this term, although the practice to which it refers is as well known here as in France. It consists in winding a few fibres of cotton wool spirally on the end of a fine probe; then, having charged the point with the remedy you wish to apply, you pass the probe as deeply as possible into the narrow cavity or root canal, rotate it slightly and withdraw it, leaving the cotton wool behind; the loose part of this is then gradually worked in with the point of the stylet. The lock of wool, charged at the end, is compared to a slow match or port-fire.—*Translator*.

enlarging the canal slightly as far as the point at which the pulp merges into the nervo-vascular cord, which alone occupies the narrow part of the canal. It does not do to push the arsenical applications further on account of the risk of exciting a certain amount of periostitis which would result if the arsenic should penetrate to the point of the root.

The cauterisation of the nervo-vascular cord itself is not usually necessary, for its atrophy is the natural consequence of the destruction of the pulp. We should then limit the application of the caustic to the pulp and its prolongations, and not to go beyond this.

In the course of the operation of destroying little by little the remains of the pulp there is one precaution which it is always as well to take, and that is to remove the eschars as soon as they are formed. An excavator or a perforator generally answers very well for this purpose, though some practitioners advise the careful extraction of the *débris* by means of fine stylets made of very flexible steel and armed with hooklets, these are moved about in the root canals so as to catch and remove the contents. They teach that these sloughs if not removed will almost certainly cause periostitis. Periostitis is certainly a tolerably frequent complication of the treatment of caries by means of caustics, but we doubt the correctness of their explanation of this fact. We should advise that the sloughs should be removed from the canals as completely as possible, but without investigating too deeply with instruments which may themselves injure the periosteum, and may thus bring on the inflammation which we specially wish to avoid.

Such are the rules applicable to the use of arsenic in ordinary cases, but we have still a word to say about its use in the caries of the temporary teeth and in the permanent teeth whilst still in process of development.

The treatment of penetrating caries of the temporary teeth is exactly the same as that of the permanent up to the time at which the reabsorption of their roots begins, which leads to their loosening and falling out. If applied under these circumstances there would be danger of the arsenic affecting the mucous membrane of the gum, the periosteum, and even the walls of the subjacent follicle. We should not, then, attempt this treatment in children unless the age of the patient shows that there is no danger of this sort to be expected.

In the case of permanent teeth which have been lately erupted, and which may have been prematurely attacked by caries, or have been so fractured as to expose the pulp, we ought to proceed with the greatest caution. The applica-

tion of arsenic to a root having a large terminal aperture would be likely to be followed by violent inflammation of the subjacent tissue, and to provoke an acute attack of periostitis which would be very difficult to subdue. Under these circumstances it is better to try to utilise the functional activity of the pulp and to induce the production of secondary dentine which would help to narrow the root canal.

(To be continued.)

LECTURES ON THE PHYSICAL EXAMINATION OF THE MOUTH AND THROAT.*

By G. V. POORE, M.D., F.R.C.P.,

Professor of Medical Jurisprudence, University College; late

Assistant Professor of Clinical Medicine; Assistant

Physician, and Physician in Charge of the

Throat Department of the Hospital, &c.

(From the 'Lancet.')

LECTURE III.—THE PHYSICAL SIGNS DERIVABLE FROM THE PHARYNX AND FAUCES.

GENTLEMEN,—We next have to consider the indications of disease which we may derive from an inspection of the fauces and pharynx—i.e. so much of those parts as can be seen without the aid of instruments, other than a tongue-depressor. It may be well to remind you that a considerable part of the pharyngeal cavity, which extends upwards to the basilar portion of the occipital bone and downwards to the level of the fifth cervical vertebra and the cricoid cartilage, cannot be seen except by the aid of mirrors. If a patient be asked to turn towards the light, open the mouth widely and inspire deeply, the tongue is usually depressed on the floor of the mouth, and we get a good view of the fauces and pharynx. We may often get a much better view without than with the aid of a tongue-depressor, the presence of the instrument seeming with many to excite the tongue, as it were, to uncontrollable movements which obscure the view. If it is necessary to use a tongue-depressor, it is well to choose one with a long wooden handle, and with a spatula having a gentle curve which will fit to the natural curve of the tongue. The blade of the spatula should be broad, and should be passed right over the dorsum of the tongue beyond the circumvallate papillæ. The patient should then be asked to inspire deeply, and a slight amount of downward

* Delivered to the Junior Class of Clinical Medicine, University College.

pressure should be exerted with the instrument. We then get a view of (1, 2) the hard and soft palates, (3, 4) the anterior and (5, 6) the posterior pillars of the fauces, (7) the uvula, (8, 9) the tonsils on either side, (10) the posterior wall of the pharynx, and (11) the tip of the epiglottis. In looking into the mouth in this way there are therefore eleven distinct points which demand your attention. I have catalogued them thus because I know by experience that many students look into the mouth without any definite notion of what they are going to look for.

It is well to remember that the parts seen are formed of a highly glandular mucous membrane, the glands being largest in the posterior wall of the pharynx. The mucous membrane of the pillars of the fauces and soft palate covers a stratum of voluntary muscular fibres. Ordinary and special sensation (taste) is afforded by branches of the glosso-pharyngeal and vagus inextricably commingled, and the muscles of the soft palate are supplied by the glosso-pharyngeal, and the motor fibres of the vagus obtained through the spinal-accessory nerve.

It is scarcely necessary to mention how easily reflex contraction of the fauces and pharynx, and even vomiting, is produced by irritation of the mucous membrane.

On inspecting these parts we notice that the appearance of the mucous membrane of the mouth alters close to the margin of the anterior pillars of the fauces. In front of this line it is rosy in hue, and behind it has a more dusky and congested appearance. This, it should be remembered, is a normal condition, and is not indicative of any disease.

The common diseased appearances of this region are *hyperæmia*, *pallor*, *swelling*, *excess of secretion*, *ulceration*, *cicatrisation*, and *adventitious* appearances.

Hyperæmia arises here, as elsewhere, from direct or reflex irritation. *Hyperæmia* without swelling, in which we see the enlarged blood-vessels coursing on the pharynx and fauces, is most often due to stomach irritation, caused by abuse of strong drinks and highly-seasoned food. Once established, it is maintained by cold, tobacco-smoke, excessive use of the parts, and foul atmospheres. *Hyperæmia* is hardly ever seen alone, but is usually combined with swelling.

Redness and swelling of the throat are common in:

1. Simple catarrh, due to ordinary cold.
2. Acute tonsillitis.
3. Scarlet fever, in which occasionally the redness is excessive.
4. Diphtheria.
5. Erysipelas (not very common), and measles.
6. The early stage of syphilis.

In all these conditions it may happen that the throat is merely swollen,

but usually there are some points which enable us to distinguish one kind of swollen pharynx from another. The degree of swelling and the seat thereof vary much. The uvula may be enormously enlarged and clubbed at the end, owing to a dropsy brought on by gravitation. The soft palate and anterior pillars of the fauces are sometimes the seat of particular swelling and œdema, especially in hospital sore-throat; the tonsils may be swollen out of all proportion to the neighbouring parts, and may threaten suffocation by meeting in the middle line; the posterior wall of the pharynx may be swollen by matter forming behind it, or the epiglottis may be in a state of extreme œdema, threatening life. When the swelling of these parts is due to one of the acute specific diseases, the concomitant symptoms will afford means for diagnosis—the rash in scarlet fever or measles, the patches of false membrane in diphtheria, the facial eruption in erysipelas. The swelling due to ordinary catarrh is usually not very great, and the whole region very often steams with moisture.

In acute tonsillitis, quinsy, or hospital sore-throat, the throat condition is the main trouble. The constitutional disturbance is always severe. There is headache, malaise, loss of appetite, and a look of extreme prostration. The temperature is always raised, and may reach 104° F.; the pulse is quick, the tongue often coated with a thick, creamy, rheumatic fur, with large papillæ. The patient swallows, speaks, and even breathes with difficulty, owing to the faucial obstruction. The bowels are confined, and the breath is foul, owing to the accumulation of catarrhal products in the fauces. The parts look red and œdematous, and are occasionally so swollen as to be past recognition. The swelling may be general, or it is limited to the tonsils, or to one tonsil rather than the other. Often one sees a bulging forward of one anterior pillar and the adjoining part of the soft palate, and on palpation fluctuation may be obtained, showing that suppuration has taken place. The parts may be covered with a yellow, slimy muco-pus, and the enlarged tonsils may have patches of white secretion about the orifices of the crypts; but it may be well to bear in mind that although abscesses often form beneath the mucous membrane or in the tonsil, superficial ulceration of the mucous membrane is not common. This is the ordinary form of hospital sore-throat, with which some of you possibly have only a too practical acquaintance. Occasionally acute septicæmia is ushered in in this way, and the case goes rapidly on to a fatal termination. Here one may well direct your attention to the cause of this sore-throat—viz. foul air.

It was more common in the days of septic surgery than now, but it is still common enough in hospitals, and will probably remain so. When you see these cases in private, and especially when a throat of this kind runs through a family, always make a diligent search for the cause, which is usually a foul atmosphere combined with draughts. Living in ill-ventilated and crowded rooms, or in rooms to which sewer gas has access, are the most common causes. Butlers, who sleep close to the untrapped pantry sink, and in whom converge the four great causes of pharyngitis—over-eating, over-drinking, want of fresh air and exercise, and sleeping in an atmosphere laden with sewer gas—are very prone to this trouble.

On the subsidence of the inflammation the tonsils are often left enlarged, and in patients of a strumous habit this enlargement is very obstinate. It occasionally happens in strumous children that the tonsils undergo a slow progressive enlargement without any acute attack. The tonsils in these cases are large, pale, smooth, and hard-looking, and often meet in the middle line, while the rest of the pharyngeal mucous membrane remains healthy. The cause of the enlargement is either a general hypertrophy of the part, or is due to inflammatory products or occasionally to a lardaceous change. The openings of the crypts on the surface of the tonsil may give the idea of ulceration. If the tonsils meet and rub against each other, a superficial erosion of the surface is not uncommon. These enlarged tonsils may inflame and swell up when the patient "catches cold."

There is a form of hyperæmia and swelling of the posterior wall of the pharynx which must be mentioned. In this the vessels ramifying in the mucous membrane are distinctly enlarged, and the mucous follicles are swollen, giving a coarsely granular appearance. Hence the name of "granular pharyngitis" has been given to it. The mucous secretion of the part is increased, and strings of mucus may be generally seen adhering to the membrane. This form of pharyngeal disease is common among gourmands and steady drinkers. It seems, according to Böhle, to be very common in the Rhineland, and the cause of it is said to be found in the convivial nature of the inhabitants and the seductiveness of the famous wines, which leads to a large amount of drinking and singing in close ill-ventilated taverns. Combined with a certain amount of laryngeal congestion, it constitutes one form of the so-called "clergyman's sore-throat"—a form of sore-throat which demands a strict dietetic regimen for its relief. It is very common in gouty subjects.

Pallor of the fauces and pharynx is present in anæmia and leucocythæmia. Occasionally the pallor of this part is out of proportion to that of the rest of the body. There may be extreme pallor combined with a great amount of chronic enlargement of the tonsils.

Ulceration of the pharynx and fauces may be in the form of aphthous ulcers, like those which occur on the tongue and mouth.

The most common cause, however, of ulceration of this region is syphilis. Syphilis may attack the pharynx in its early or late stages, and the manifestations may be either "secondary" or "tertiary." The pharyngeal condition which occurs during the secondary stage, *i.e.* during the time of the general glandular enlargement, and the symmetrical rashes, is, in its typical form, pathognomonic of syphilis, and once recognised can scarcely ever be mistaken. Looking at the throat we see the tonsils slightly enlarged, and upon the surface of them deep ulcerations. It is characteristic of this form of disease *that the ulceration is not limited to the tonsil, but involves the anterior pillars of the fauces, the margin of the soft palate, and the uvula.* We see this region dotted with mucous patches and superficial ulceration, giving to it a gray mottled appearance, which is so characteristic as to be absolutely diagnostic of syphilis. Should the ulceration be limited to the tonsil, we may be in doubt as to its cause, but should it spread from the tonsil and involve the parts which I have enumerated, and in the manner I have stated, we may be certain of our diagnosis and of the satisfactory result of treatment. Occasionally the mucous patches and ulcerations are very limited in extent, and may be so situated (just at the junction of the anterior pillar with the tongue, for example) as to elude detection unless they are looked for with very great care.

Occasionally the ulceration of this part, from syphilis, is much more severe; the uvula may slough away and the whole margin of the palate may be so implicated as to produce an adhesion between it and the posterior pharyngeal wall, thus shutting off the nasal from the oral cavity. This kind of extensive ulceration has been met with in children, as the result, *probably*, of congenital syphilis. In appearance the throat does not differ from that which is due to acquired syphilis. I have seen one or two of these cases myself. There was lately in the hospital a boy whose throat had all the appearances of extreme ulceration which I have just described, together with adhesion of the palate to the pharyngeal wall. The appearances were syphilitic, but mercury and iodides made him worse. The boy was a

wretched strumous foundling out of a suburban workhouse, and good diet, the administration of sulphides, and a visit to Eastbourne completely cured him, and he was able to leave the workhouse and take a situation. Of course the adhesions remained. This case was possibly one of scrofulous ulceration, and a similar case is mentioned by Wilks in his work on pathology.

In the *tertiary* stage of syphilis the pharynx, fauces, and hard palate are liable to the growth of gummata, which first form hard congestive patches, and then soften and slough, leaving deep clean-cut wounds, or clean-cut, "punched-out" perforations of the soft and hard palate. Whether we detect the early hard swelling or the subsequent foul circular slough, or the final perforation, we may be sure that we have to deal with a case of tertiary syphilis. Sometimes in tertiary syphilis we are confronted, not with distinct gummata, but with a uniform infiltration of the parts, which causes them to be extensively thickened and sensibly indurated. This infiltration is often followed by ulceration and sloughing, which leads to great loss of substance, to adhesion of neighbouring parts, to contraction by cicatrisation, and great deformity. The throat which has been the seat of extensive tertiary syphilitic disease looks hard and glazy; the scars of cicatrices are seen scattered more or less all over it; there may be perforations either of the hard or soft palates; there may be great loss of substance (very commonly of the uvula and tonsils), the posterior pillars of the fauces, or the soft palate may be wholly or in part adherent to the posterior wall of the pharynx; and the throat may be generally so contracted and distorted, that the patient can neither speak, swallow, nor breathe with comfort.

There is a form of chronic inflammatory disease of the pharynx to which I would direct especial attention. In scrofulous and syphilitic subjects the nasal cavity and the pharynx are liable to an inflammatory swelling of the mucous membrane, accompanied by hyperæmia, a catarrh of sticky adherent mucus, and occasionally superficial sloughing of the mucous membranes. Either as a cause or a consequence of this chronic inflammatory state, we may have caries of the bones of the nasal cavity. On looking into the throat of a patient with this trouble, which is often called *ozæna* from the stinking of the rotting mucus or sloughing membrane, we may see a granular hyperæmic appearance of the posterior wall of the pharynx; and on asking the patient to breathe deeply, and thus elevate the soft palate, we may see very often the tail end, as it were, of a lump of glairy or black tenacious-looking mucus descending from the pharynx. In

cases of old standing, in which the posterior wall of the pharynx has been the seat of chronic inflammation, the soft mucus, granular, glandular appearance of the pharynx gives way to a smooth, glazy, cicatricial dry-looking surface, which is very characteristic. This condition has been called *pharyngitis sicca*. Whenever we see sloughs coming from behind the soft palate, or this glazy appearance of the pharynx, we should always search for the causes and symptoms of *ozæna*, and subject the naso-pharyngeal cavities to a thorough examination, of which I shall have more to say hereafter.

Both tubercular and typhoid ulcerations are said to occur in the pharynx. They are excessively rare, and I need only remind you of them by mentioning the fact.

With regard to the adventitious appearances of these parts, the most common are the white patches which are due to the growth of *iodium albicans* upon aphthous ulcers. These may appear all over the fauces and pharynx, and their nature is easily decided by the microscope. In diphtheria we are confronted with a whitish or yellowish membranous exudation, which may spread all over the fauces, pharynx, and tonsils. The consistence of the membrane varies from that of cream to that of wet wash leather.

True diphtheria has to be distinguished from the patches of *oidium* just mentioned, and from the patches of white secretion which are often seen sticking about the orifices of the tonsillar crypts. The dotted patchy appearance and the discovery of the *oidium* will serve to distinguish the first, and the latter appearance is limited to the tonsils, and the patches are seldom large. The diphtheritic membrane generally grows from one point, and soon presents a considerable area. But this is not always the case, and the membrane may begin to grow from several points at once. When the false membrane of diphtheria is removed the mucous surface beneath is left raw and bleeding.

It is not necessary to do more than mention the various tumours—adenomata, papillomata, carcinomata—which may grow from the hard and soft palate. Occasionally a papilloma has been seen growing from the end of the uvula. Polypi growing from the nasal or upper pharyngeal cavities may be seen hanging behind the soft palate.

The condition known as post-pharyngeal abscess is due to a collection of pus forming in the bed of areolar tissue, which unites the pharyngeal mucous membrane to the bodies of the cervical vertebræ, and it is usually due to caries of the bodies of these vertebræ. The abscess forms a smooth globular projection, in which fluctuation may be detected,

and which often endangers life by its interference with respiration and deglutition.

A few words remain to be said about the neuroses of the mouth and fauces. Of paralysis and motor troubles affecting the tongue I have already spoken. The common sensibility of the mouth and tongue is derived from the fifth nerve, and in cases of paralysis of that nerve common sensibility is lost, so that the patient is unconscious of the presence of food or irritating particles upon the side of the paralysis. In cases of paralysis of the third division of the fifth there is very commonly observed a swelling and congestion of the mucous membrane of the mouth, and occasionally ulceration. Whether this ulceration is produced directly by the nerve lesions, or indirectly by the irritation of foreign particles, I will not stop to consider, although I may say that my own opinion is strongly in favour of the former theory. When common sensation of the tongue and mouth is lost, it may seem as though the sense of taste is lost also, because the patient is unable to appreciate irritants such as strong acids and alkalis (like ammonia), which in reality appeal rather to common than to special sensibility.

The special sense of taste is conferred upon the anterior two-thirds of the tongue by the fibres of the chorda tympani, and on the posterior third and the pillars of the fauces by the glosso-pharyngeal. Taste is most commonly impaired in cases where a disease of the temporal bone has injured the facial nerve at a point above the junction with it of the chorda tympani. In testing the power of taste much care is needed. Erb* gives the following directions:—"It is expedient that the patient should put the tongue out, with the mouth widely opened, and that he should keep the eyes closed while the sapid substance is being applied to the particular part the sensibility of which is to be investigated, with a glass rod, or a small brush, and in very small quantity. As soon as a taste is perceived, a sign is made, and then only is the tongue to be withdrawn and the conclusion arrived at stated." It is very difficult to prevent the sapid substance from diffusing itself over the tongue, and thus touching a portion in which the gustatory faculty is perfect. On this account I think it is better not to allow the patient to speak while the trial is going on, but to make him keep his tongue exposed, and express his sensations in writing, using the initial letters of sweet, bitter, acid, as symbols. The tongue must be carefully cleaned between each trial. It must be remembered that bitter tastes are best appreciated

* 'Ziemssen's Encyclopædia,' vol. xi.

at the root, and sweet tastes at the tip of the tongue. Acids are appreciated by the edges principally. Solutions of quinine or quassia, syrups, and vinegar are employed in these investigations. Subjective phenomena of taste are occasionally complained of, such as the sour, bitter, and putrid tastes in dyspepsia.

In paralysis of the facial, from injury or disease in the temporal bone, there is a want of power in the levator palati and the azygos uvulæ on the paralysed side.

Paralysis of the palate is liable to occur from other causes. In these cases the palate is seen to hang loose and flaccid in the mouth, and to remain stationary during deep inspiration, swallowing, and speaking, and not to move when tickled or otherwise irritated. In cases of this paralysis food is very liable to return through the nose, because the nasopharynx cannot be shut off during swallowing, and in speaking all sounds have a nasal twang.

Paralysis of the palate is particularly liable to occur after diphtheria, and it is generally the precursor of the other post-diphtherial paralytic phenomena. This paralysis may occur after other febrile conditions, and may form a part of labio-glosso-laryngeal paralysis. We have had a girl attending in the out-patient room with absolute paralysis of the palate, which was followed by well-marked symptoms of locomotor ataxy.

Hospital Reports and Case-Book.

EXETER DENTAL HOSPITAL.

It is not often that the founding of a society of professional men brings forth fruit for the benefit of the general public so quickly as has been the case with the Western Counties Dental Association. It is hardly twelve months ago that this Association held its inaugural meeting in Exeter; and already, as the result of that meeting, a Dental hospital has been established, thus adding another to the long list of truly charitable and useful institutions of which the City has such just reason to be proud. The good work thus accomplished will be appreciated by all who have at any time experienced the exquisite tortures of toothache; and very small indeed is the number of the privileged few,

especially among the poorer classes, who for many reasons do not bestow that care on the preservation of the teeth in their early days which is desirable. It would be an excellent thing, indeed, if the opening of a Dental hospital in the City should tend to bring about a reform in this matter. The adage that "prevention is better than cure" applies here, perhaps, with even more force than in many other cases; for unsound teeth are responsible for more of the ills that flesh is heir to than many unreflecting people imagine. With the utmost care, however, the services of the operating Dentist will always be required by most persons at some time of life; and it will be a great boon to the inhabitants of this City that henceforward there will be a place to which they can resort in case of need with perfect confidence that the most scientific appliances and the best professional skill will be available for their relief.

The new Dental Hospital was originally suggested by Mr. Spence-Bate, President of the Western Counties Association, but the chief credit of its foundation belongs to Mr. J. T. Browne-Mason, hon. secretary to the Association, who took up the idea with all the enthusiasm of a warm and generous heart, and worked hard and unceasingly until he had made the idea a fact. In his labours he has been cordially assisted by the Mayor (W. H. Ellis, Esq.), who accepts the office of President, and by several of the leading Dentists and medical men of the City. The institution is under the patronage of the Right Rev. the Lord Bishop of Exeter, the Right Hon. Lord Poltimore, the Right Hon. Lord Haldon, Edward Johnson, Esq., M.P., H. S. Northcote, Esq., C.B., M.P., the Rev. Canon Lee, the Rev. Prebendary Barnes, William Barnes, Esq., H. R. Courtenay, Esq., A. Mills, Esq., E. A. Sanders, Esq., and C. A. W. Troyte, Esq.; and the following gentlemen form the committee of management:—Messrs. H. R. Courtenay, George Colson, Rev. J. G. Dangar, George Franklin, W. S. Mortimer, W. Petherick, H. D. Thomas, Rev. W. G. Mallett, and Major Wyatt-Edgell. Mr. Henry B. Mason has been appointed hon. secretary, and Mr. Frederick Townsend treasurer.

The hospital is located in Bedford Circus, in the premises formerly occupied by the City surveyor. There is a commodious waiting room, and the other two principal apartments—all being on the ground floor—have been fitted up as operating rooms. The appliances are all of the most approved kind, and it is on these that the great part of the expenditure has been concentrated. No expense has been spared in securing the very best in the shape of operating chairs, extractors, anæsthetic apparatus, &c., that the

Dental machinist can supply; the rest of the furniture being kept down to very modest limits. In this the subscribers—for it is a purely voluntary concern—have a proof that the committee intend to be guided by principles of sound economy in their management of the affairs of the institution, devoting all their available funds to securing thorough efficiency, wasting nothing on mere show. It will be seen from the following list that patients who resort to the hospital will have the highest skill of the Dental profession at their service. Messrs. A. J. Cumming, F.R.C.S., and C. H. Roper, M.R.C.S., have been appointed consulting surgeons; Mr. W. A. Budd, M.R.C.S., surgeon-administrator of anæsthetics; Messrs. J. T. Browne-Mason, L.D.S., S. Bevan Fox, L.D.S., H. B. Mason, L.D.S., C. Norman King, L.D.S.I., and Augustus King, L.D.S.I., Dental surgeons. The institution will be opened on Monday next, upon and after which day patients will be admitted daily (Sundays excepted) between the hours of nine and eleven in the morning. Persons who may be in such pain as to require immediate relief may be admitted without recommendation, and receive such operative assistance as may be immediately necessary; but all other patients must be recommended, either by a governor or by a subscriber. A life governor will be entitled to five recommendations annually for each donation of ten guineas; an annual governor will receive five for each guinea subscribed annually; and annual subscribers will be entitled to recommendations at the rate of two per half guinea. The committee have not yet had all their financial wants supplied, and we hope that this statement will induce many of our readers to avail themselves of the opportunity now open of helping so excellent a movement.—*Devon Evening.*

THE EXECUTIVE COMMITTEE OF THE GENERAL MEDICAL COUNCIL.

THIS Committee met on Wednesday, June 16th. Among other subjects referred to the approaching meeting of the Medical Council, was a counter-memorial from the Representative Board of the British Dental Association, in reply to the memorial lately published and addressed to the Council by the Association of Surgeons practising Dentistry.

British Journal of Dental Science.

LONDON, JULY 1, 1880.

WE print on another page a correspondence between Sir John Lubbock and Dr. Jacob, of Dublin. Sir John Lubbock very clearly points out the state of the Law before the passing of the Dentists Act in reply to a former letter from Dr. Jacob, in which he assumes that by this Bill (for the first time) 5000 persons can call themselves Surgeon-Dentists without any qualification. Sir John Lubbock refers to this mistake, and shows that the law had already decided that *any one* could call himself Surgeon-Dentist. Dr. Jacob's reply reminds us very forcibly of the old saying, "A man convinced against his will is of the same opinion still;" or, if we take a saying of the fair sex when beaten in argument and asked what reasons she can produce in support of her assertion, can only reply, "Because it is so" (that is, in *her* opinion).

In support of Sir John Lubbock we will reprint a sentence from a paper that was first published in this Journal, at p. 577, vol. xiii, No. 174, December, 1870. After explaining the scheme for a Dentists Act the writer proceeds to say :

"You will see that, by this plan, which is somewhat similar though more comprehensive than that embraced in the Apothecaries Act of 1815, no diploma, no honour is conferred upon any one without examination; no additional dignity is thus given to any of the numerous intruders on the profession of Dentistry: they are placed in no better position than they now are, and we concede them no advantage that they do not now possess. Granted that we place A. B., who yesterday was a brass-founder, on the same footing as C. D., a respectable practitioner, who without diploma has been in practice some twenty years: what do we do more than is now done? Search the local directories; are we not there all alike classed as Dentists? what need, then, to cry out now? The fact is there; we cannot help it. By ignoring it we add to it daily. Admit it, then, frankly; register it—and kill it—with kindness.

"Let me next plead, on exactly the same score, for the most unbounded liberality in the interpretation of the word Dentist. To get this Act passed at all it must be so framed that no single individual can suffer from it. I heard the other day of a village where the tailor at one end, and the shoemaker at the other, both 'pull teeth.' We cannot, nor ever could interfere with their practice—and if they chose they might now call themselves Dentists—but according to my plan if they *called* themselves Dentists, they should be compelled to register, and become the last of their race."

"One matter I have by no means forgotten, although I have not hitherto alluded to it,—that is, the question of 'Chemist and Dentist,' but I have avoided it so far simply because it would involve me in a long argument which would be foreign to the purpose of this paper. It suffices for my present purpose to look upon every one as a Dentist who so calls himself, no matter how he may conduct his practice."

We cannot but regret that so much time is still taken up in useless discussion of "*un fait accompli*," the chief point of which Dr. Jacob naively admits when he says, "I give Sir John Lubbock's Act the full credit of eventually improving the position of Dentists;" and again, he says, "no doubt the next generation of medical men will have to thank Sir John Lubbock for his Act." We will only add that we do not hesitate to assert and reassert that that Act is *our* Act, as may be seen by p. 576 of the issue of this Journal referred to above, that is, the number for December, 1870.

Literary Notices and Selections.

THE following has been sent to us addressed to the Editor of the 'British Journal of Dental Science.'

From the 'Medical Press and Circular,' June 23rd.

With the Editor's compliments.

SIR JOHN LUBBOCK ON THE DENTAL BILL.

To the Editor of the 'Medical Press and Circular.'

SIR,—In reply to Dr. Jacob's letter, while thanking him for his courtesy towards myself personally, I can assure him that his condemnation of the Dental Reform Association is

founded upon a misapprehension of the state of the law before the passing of the Dental Bill.

Dr. Jacob complains that "by our Bill 5000 persons can call themselves Surgeon-Dentists who have had no surgical education whatever." This is, however, quite a mistake. Before our Bill the law courts had decided that any person whatever could call himself a Surgeon-Dentist. Our Act, however, provides that (clause 3), "A person shall not be entitled to take or use the name or title of 'Dentist' (either alone or in combination with any other word or words), or of 'Dental Practitioner,' or any name, title, addition, or description, implying that he is registered under this Act, or that he is a person specially qualified to practise Dentistry, unless he is registered under this Act."

Under clause 6 those only can be registered who are (a) licentiates in Dental Surgery or Dentistry of any of the medical authorities; or (b) are entitled as hereinafter mentioned to be registered as a foreign or colonial Dentist; or (c) are at the passing of this Act *bonâ fide* engaged in the practice of Dentistry or Dental surgery, either separately or in conjunction with the practice of medicine, surgery, or pharmacy.

Our Bill, therefore, so far from giving the power of which Dr. Jacob complains, has already greatly limited it, and will eventually have the very effect he desires.

I am, Sir,

Your obedient servant,

JOHN LUBBOCK.

House of Commons, June 16th.

Dr. Jacob, having been afforded the opportunity of perusing the foregoing letter, has sent us the following reply, which may with advantage be published side by side with the communication of Sir John Lubbock.

To the Editor of the 'Medical Press and Circular.'

SIR,—I would observe in reply to the observation of Sir John Lubbock, that the state of affairs before the passing of his Act—when a few persons might, in peril of prosecution, and under the ban of illicit practice, call themselves Surgeon-Dentists—was very different from that which his Act established, when a multitude of uneducated persons are legally authorised and officially recorded as Dental practitioners. Before the Act a druggist might—if he chose to run the risk of a police-court summons—call himself "Surgeon-Dentist," or give himself any other conceivable title he pleased, but the general public did not believe him, and the best part of them avoided him as a quack pretender. Since

the Act the same druggist—without any additional education or qualification whatever—may buy a copy of the “Dental Register,” underline his name therein with red ink, and at once become a fully qualified and gazetted Dental surgeon. It is true that Clause 3 of the Act forbids the use of recognised titles by any one “unless he is registered under this Act,” but inasmuch as nearly 5000 unqualified persons have been already “registered under this Act, and are entirely exempt from this prohibition, I fail to see how the clause affords any protection whatever to the surgical profession, except against the incursion of future claimants of the same class.

I give Sir John Lubbock’s Act the full credit of “eventually” improving the position of Dentists. But that happy “event” cannot arise until death has removed from the “Dental Register” the 5000 chemists, druggists’ assistants, and self-dubbed Dentists whom Sir John Lubbock has placed upon its pages. That process of expurgation will occupy at least thirty years, and it may well be doubted whether the eventual improvement of Dental surgery as a profession has not been dearly purchased by its utter humiliation for the coming quarter of a century.

No doubt the next generation of medical men will have occasion to thank Sir John Lubbock for his Act, and—if they, and he, and the University of London exist when the nineteenth century has lapsed—no doubt the medical graduates of that time will return the honourable baronet triumphantly for their University, but until then, it is certainly too soon to ask for their gratitude and their votes, as Mr. Tomes did in his letter which evoked my protest.

I am, Sir, yours, &c.,

ARCHIBALD H. JACOB, M.D. Dub., F.R.C.S.I.

Ely Place, Dublin, June 21, 1880.

HEARING THROUGH THE TEETH AND CRANIAL BONES.

DR. THOMAS (‘Philadelphia Medical Times,’ Feb. 28th, 1880) proposes the term “osteophone” for all appliances—including the audiphone and dentaphone—intended to aid hearing by conveying articulate sounds through the medium of the cranial bones. His researches lead him to the following amongst other conclusions. The audiphone is much better adapted for use at a distance than the dentaphone, the latter being only suited to transmit sounds emitted near its mouthpiece. Although these instruments are of great value—

in a considerable proportion of cases, they supply, the author considers, a very small fraction of normal hearing—much *less* than a *hundredth part*. It is important that this should be taken into account, for a large number of partially deaf persons suffer such disappointment at their failure to hear in full that they undervalue or altogether disregard a positive gain of many times their usual hearing. The very small fraction of normal hearing gained is, the author thinks, of priceless value in many cases of those who hear practically nothing without these instruments. In regard to deaf-mutes, the audiphone is worthless, unless they possess the faculty of hearing their own voices without the instrument. The author has constructed an audiphone which can be kept in position without the use of the hand. The best material for diaphragms he finds to be Fuller's board (or press-board) treated with shellac varnish. A simple rod of hard wood, one end of which is placed on the upper teeth of the speaker, the other on those of the listener, or on his head, acts as a powerful osteophone, and will transmit the vocal vibrations in great volume to the ears of the deaf person.—*Lond. Med. Record*.

EXTRACTING TEETH AND PUTTING THEM BACK INTO THE JAW.

WE invite opinions—of course, from qualified surgeons who are engaged in the practice of Dentistry—on the subject of tooth extraction and replacement. Under what conditions is it possible to extract the stump of a broken tooth, affix a new crown to it, or otherwise manipulate the structure, perhaps under antiseptic precautions, and to return it to its socket? Of course the nerve connection must in any such case be destroyed. The question is, we take it, one of vitality in the periosteum of the tooth. Can this be kept alive, say for half an hour; and when the stump is returned will union take place—we mean such union as shall render the replaced tooth practically again part of the organism? or is it simply from this time a foreign substance, which may be tolerated for a considerable period, but will perhaps suddenly become the seat of irritative processes, and need to be removed? If members of our profession—with whom alone we can discuss a question of surgery and physiology—will favour us with concise statements of their opinions on this interesting subject we shall be glad.—*Lancet*.

The following are some of the results of the above appeal.

The 'Lancet' expressly declares that it will not admit observations from the really qualified Dentists, that is, those who hold the diploma of Licentiate in Dental Surgery. We leave our readers to judge of the results. We may add that the subject is relegated to the small type of the correspondence department.—ED. 'B. J. D. S.'

SIR,—A tooth of a single root, or the gum portion of such a tooth, may be extracted, cleansed, filled, or an artificial crown adjusted, and returned to its former socket in many cases; success depends upon the constitution, temperament, and condition of health in the patient at the time of operation. The tooth must be more or less shortened, smooth grooves formed to help to secure retention, which is entirely mechanical, dependent wholly upon lateral or horizontal pressure; this retaining pressure not secured in the operation, or lost by any subsequent cause, the tooth invariably elongates until it is extruded from the mouth. This tendency is so unerring and invariable, that all teeth, in all conditions of health, in all temperaments, will be extruded, without this mechanical retaining power be secured by natural or artificial contact, through shape, position, occlusion in mastication or in rest.

All the parts engaged in supporting and retaining the teeth are essentially provisional, and always changing to meet the demands made by the wear and tear of the mouth from the forces exercised in grinding and cutting. A transplanted tooth is a lifeless substance, wholly divested of all means of vital or reciprocal union, essentially a foreign body, alien to all growth of this part tolerating its presence, and always working to throw it out, and prevented only from doing so at once by mechanical impediments. Indeed, it is difficult to understand a necessity for this operation, as it is to doubt the recuperative energy in many constitutions and temperaments to heal so simple a wound by first intention as would be made in this operation under skilful selection of time and a patient's idiosyncrasy.

A simple porcelain tooth with fang would be, perhaps, less objectionable than the one extracted. It would be no more a foreign substance in effect, less subject to changes, might be easily and accurately placed, and would be followed by the healing of the part by first intention, just as well and as soon as the, or a, natural tooth, if it were well provided for in its retention by mechanical support; but without this support, and positive constant mechanical retention, it would in a short time be ejected from its position.

This is the invariable rule with all teeth, under the most perfect condition of health in themselves, when from disease or unskilful interference this mechanical retaining force has been lost. The keystone of the dental arch destroyed, it is a question of time only when the teeth become loosened and finally lost to the mouth. It is not a question of vital reunion or of periosteal existence, but one of ordinary freedom from inflammatory tendency or mucous irritability at the time of operating, with the positive application of mechanical force to firmly retain the tooth in its place. There never has been a doubt in the older members of the Dental profession of the possibilities of successfully doing the operation, which is old enough to be better in itself. This has been conceded by Harris, Westcot, Maynard, Forster, Devinelle, and others; but its utility, desirability, or necessity, has never been recognised, nor ever can be by an intelligent comparison with other means to the same end. As good, if not a better, result can always be attained by a simpler, safer, and more expeditious operation. Consequently, this exceptional practice, although always held as possible, is not, and never will be, the practice, or an accredited operation. I remain, Sir, your obedient servant, **ALFRED BLANDY, M.D.** Brook Street, Grosvenor Square, June, 1880

SIR,—In reference to the above in your last week's issue, the following may be of interest. It occurred during the time I was house-surgeon at the Rotherham Hospital, and I should have reported it at the time but that I thought it was no novelty.

Some time in 1877 a boy was brought to the hospital suffering from injuries sustained by falling down some stone steps, whilst carrying an ingot of iron at Messrs. Corbitt's stove works. Of two prominent upper middle incisors, one was driven up through the socket into the nose, and the other was knocked out altogether. I pulled down the one from the nose with a pair of forceps into its proper place, and on asking some question about the other, the boy pulled it out of his trousers pocket. I washed it (probably in carbolic lotion), and replaced it in the socket. A piece of cork was then placed between these teeth and the lower ones, and the jaw fixed in the ordinary way with a four-tailed bandage. I forget how long the bandage was kept on, but in a short time both teeth became quite firmly fixed, and have remained so till I last saw him, some months ago. From what I could make out, the tooth was "again part of the organism," and not a foreign substance.

I am unable to say how long the tooth was out of its

socket, but it must have been more than half an hour. I remain yours, &c., W. MAKEIG JONES, M.R.C.S. Wath-upon-Dearne, Rotherham.

SIR,—In reply to your inquiry on this subject, allow me to mention a matter of personal experience.

When seventeen years of age my second left upper molar began to decay. Having then lately become a medical student, and having read about abstraction and reimplantation of teeth, I drew this tooth myself, scraped out the small cavity, washed the tooth in hot water, and replaced it. Severe inflammation followed with much swelling of the cheek; these subsided after three days, and the tooth became fairly firm and useful, and never ached again; but an accident in my twenty-second year loosened it, and I again drew it. The decay had not progressed. I also afterwards extracted a tooth for a patient and replaced it immediately without washing, and it became very firm and useful, with very little inflammation. I am of opinion the washing of my own was a mistake. Yours truly, JOHN W. HAYWARD, M.D. Liverpool, May 29th, 1880.

SIR,—As one of those from whom you invite a brief expression of opinion upon the subject of the extraction and replacement of teeth, allow me to return the following remarks, which I may preface by the statement that I am aware that announcements have from time to time been made that the twofold operation has been favorably accomplished under various circumstances both in America and at home; but that until they are verified by the exhibition of one or more cases that have stood the test of at least a year's probation, the experience I have gained during a practice extending over a long period forbids my yielding credence to an affirmation at startling variance with the physiological laws bearing upon the subject, as at present understood.

The reports to which I allude do not relate merely to the restitution of teeth to their original position after manipulation, but bear evidence to the fact that there are practitioners amongst the home body who go so far as to advocate the insertion of foreign teeth from the surface of which all trace of the periosteum has perished, and which may, they further add, for convenience sake, be kept ready for use in a dry bottle.

I do not hesitate to assert my own conviction that a tooth cannot be replaced after extraction under the most favorable conditions without the sequel of periostitis, which will differ in intensity according to the health and constitution of the

patient, and, at times, involve grave complications, tedious in duration, and too varied in character to admit of enumeration in detail. When the conditions are unfavorable, as, for instance, if the tooth has been detached from the jaw sufficiently long to cause extinction of the vitality of the enveloping membrane, for which occurrence half an hour would, to the best of my belief, suffice under manipulative treatment, but one result may be looked for—viz. the expulsion by natural processes of what has now become a foreign substance. It is, of course, well known to me that there are instances in which teeth displaced by accident have been immediately, with infinite labour and corresponding suffering to the patient, reinstated, with results more or less permanently prosperous; but I do not consider a theory founded upon these exceptions sufficient to justify the extension of the practice without the warrant of necessity, and we do not yet know of any operation upon, or manipulation of, the structure of the tooth that may not be performed with perfect safety and ease to the patient without having recourse to extraction. The possibility of inserting in the human jaw a tooth which, in obedience to the same definite law of nature that determines that no two human faces should exactly resemble each other, must distinctly differ in one or more particulars from the predecessor whose socket it would be necessary it should fill with more than mechanical exactness, has never appeared to me to be worthy of serious consideration.

That John Hunter succeeded in transplanting a tooth fresh from its original locality to the head of a fowl is no proof that the same issue will be attained when the receptive organ is as dense as the process of the human jaw, instead of a tissue as vascular and capable of the rapid transmission of nourishment as that of which the comb of a cock is composed.

Permit me, in conclusion, to offer my best thanks for the opportunity you have afforded for the expression of individual opinion, and to join with yours my hope that it will be not without interest to the profession, and of benefit to all whom it may concern. I am, Sir, yours faithfully, W. DONALD NAPIER. George Street, Hanover square, June 7th, 1880.

SIR,—In reply to your invitation for opinions on the subject of replacement of teeth after removal from the jaw, I beg to offer you something of more value than an opinion—viz. a case in point.

A lady, while skating in the month of December last, fell heavily on her face on the ice. One of her upper incisor teeth (which happened to be rather prominent) was completely knocked out, the fang, a long one, being quite entire.

Her husband, after raising her, picked up the tooth, cleaned and wiped it, and put it into his waistcoat pocket. A young lady who formed one of the skating party, hearing what had happened, came up and strongly advised the gentleman to put the tooth back into its socket. He did so with some difficulty, and the tooth is now, six months after the accident, firmly rooted and of its natural colour. About ten minutes elapsed from the time the tooth was knocked out until it was replaced.

The lady being a patient of mine, I can vouch for the accuracy of what I have stated. I am, Sir, yours truly,
DOUGLAS A. READ, M.D. Tenby, June, 1880.

SIR,—The invitation contained in your journal of the 29th ult. will doubtless call forth the opinions of many Dental surgeons relative to the replantation of teeth, and probably the majority of them will allow that, while this operation is attended by a moderate amount of success in the case of healthy teeth accidentally dislocated, yet the percentage of failures would be sufficiently great to make the operation always one of doubtful result. The subject has on previous occasions been discussed in Dental circles, and experiments have been tried, but from the absence of a more general adoption of the practice I should argue that it had been "weighed in the balance and found wanting." The fact of rupturing the vessels and nerves at the apex of the fang of the tooth is sufficient to render that tooth dead; its only source of vitality then being the intra-alveolar layer of the periosteum of the maxilla, and should it not unite with this it becomes a source of serious inflammation, leading perhaps to necrosis and exfoliation of the bone. I think, however feasible this operation may appear in theory, so many adverse contingencies surround its practice that it will not be extensively adopted till we can make success more certain in all cases. I remain, Sir, yours obediently, T. C. WHITE,
M.R.C.S. June, 1880.

SIR,—An annotation in your issue of May 29th, inviting the discussion of a subject in Dental surgery, conveys the impression that you refuse, on this or any future occasion, to admit scientific contributions to your columns from Dentists who, although holding a Dental diploma, are not fully qualified in surgery. The majority of "surgeons practising Dental surgery" are not members of the Association so styling itself; they number among them those who, by scientific and other work, have succeeded in placing their profession in its present improved position,

and they are not of the opinion you seem to hold. They recognise the professional worth of the Licentiates in Dental surgery, and admit them in every way to full and equal professional intercourse. So far as the mere fulfilment of a curriculum and the possession of a diploma can indicate the proper status of a practitioner, there is a vastly greater difference between an M.R.C.S. in general practice and an M.D. Lond. than between an L.D.S. and an M.R.C.S. practising Dentistry; yet we never hear nowadays of a physician with the highest qualifications refusing to co-operate in scientific work with a practitioner holding an inferior diploma. The expression of an emphatic opinion, such as I interpret your remarks to imply, by a journal so influential as 'the Lancet,' cannot fail to be of great importance, and I trust the Dental profession may hope you will be kind enough to explain the grounds upon which your judgment is based, so that this matter may be duly weighed by those who are still earnestly engaged in promoting measures for the further reform and advancement of the Dental department of the profession. Your obedient servant, HENRY SEWILL, M.R.C.S. Wimpole Street, June 1st, 1880.

. We hold strongly that "Dentistry" is an integral part of surgery. We claim the right of every medical practitioner to pursue Dental surgery if he pleases without any additional qualification, and we cannot recognise the right or competency of any man who is not a "medical" man to discuss a question in connection with the surgery of the mouth which involves issues so especially medical as that of transplanting teeth.—ED. L.

SIR,—In 1845 I went to a tooth-drawer of much repute in a small town in Radnorshire, where I had just commenced practice, to have an upper molar extracted, taking my own instruments with me. The worthy man was unnerved either by the importance of his patient or by the more modern instruments, whichever it may have been. After making three or four unsuccessful attempts, and between each, for my consolation, saying "By gam, Sir, it is very tight," came to the conclusion, "I must try my own tools, Sir." This he did, but without better success, ending by saying, "I must try him (the key) the other side, Sir." Much to the operator's delight, and, I think I may venture to add (after the lapse of so many years), to the patient's also, out it came. This hardly gentle treatment of the dental nerves set up intense pain in a bicuspid on the same side, which I also got him to draw, and the pain ceased. The tooth I found to be healthy, so I returned it to its

place without delay, pressing it home by the forcible closing of my jaws, a by no means pleasant sensation. It was indeed very painful—the pressure on the ruptured nerve. The tooth remained tender for a few weeks, gradually becoming less so, and for about twelve years fulfilled its vocation satisfactorily, when, without any obvious cause, the crown broke off; the fang still remains, causing no inconvenience. From time to time there was a painless secretion of matter, forming a little abscess by the side of the tooth, and its sudden fracture without caries leads me to suppose that it never regained its vitality, though its colour did not differ from the other teeth, and it became firmly fixed in the jaw. Faithfully yours, D.H.G., M.R.C.S. June, 1880.

SIR,—In reference to the above in your issue of May 29th, perhaps the following may be of interest.

When in England a few years ago I was asked to go and see a girl who was knocked down in a drunken row. I found three of the upper incisors out, one lying in the mouth with a piece of the alveolar process attached; the others on the ground. I had the latter washed in cold water, and all replaced. I brought the lacerated gum together as well as I could, and ordered the mouth to be kept closed with a bandage. The teeth became firmly fixed in the jaw, and remained so during my residence in England, which was more than a year after. Yours truly, A. Y. STEWART, L.R.C.P.E. Antrim, June 7th, 1880.

STREET DOCTORS.

THERE is hardly a district of the metropolis that has not its "street doctors," whose shop is an open stall just off the pavement, and who is a dispenser of physic and a medical lecturer at one and the same time; and judging from the fact that the same man may, in many cases, be found twice or thrice a week at the same spot, and that for many months, or years even, it is only fair to assume that quacks in a small way may gain the confidence of the public as well as more ambitious ones. The street doctor is much given to "quacking"—to proclaiming aloud and bragging of the superiority of his decoctions over all other known remedies. It is his unflagging zeal in this respect that gives him his title to be included in the ranks of London toilers. "There is nothing to be done in the street physic line o' business without plenty of patter," as a vendor of a miraculous tooth-

ache tincture, at one penny the bottle, confided to me. "In neighbourhoods like this (Brick Lane, Spitalfields) any amount of mumbo-jumbo, as we call it, goes down. Keep it going, and he genteel in giving mouth to your 'h's.' Never mind about its being proper. Whatever word you use that will bear a good sounding 'h' let it have it. It sounds hedgerkated and as though you've been through your degrees, or whatever you call'em. That's why I wear this mortar-board cap. There's a flavour of college and university about it. Do I know anything about Dentistry? Not me. I'm a house painter when there's anything in that line stirring, which is for about three months out of the twelve. Where did I get that lot of decayed human teeth from? I bought 'em up at the Cattle Market at Islington, where you can buy any mortal secondhand thing on Fridays. I bought very nigh half a peck of 'em for fifteen-pence. Enough to give anybody the tooth-ache to look at 'em! 'Course they are. That's the purpose of 'em. They give the clue to a lot of patter. 'It is not because I'm sellin' my specific in the streets of London,' says I, 'that you must suppose, ladies and gentlemen, that I ham heither hignorant nor hinxperienced. I give you hoptical hevidence of the many hegs-cruciatin' hoperations I've performed on the masticatory horgans of the human frame. Every one of them teeth you see before you, both marlows and hinsisors, was drawn from the human jaw by this hand, the hagonny of which caused me to give my mind to the invention I now offer you. It is not honly the hagonny of hextraction, it is the danger of a fractured jaw bone, which here is one in the bottle, the young woman belonging to which was hoperated on at Guy's at the time when I was walking the hospitals,' " "And is that a human jaw-bone?" I asked him, pointing to the osseous specimen suspended in some liquid by a string. "Well, I don't mind telling you, it's a sheep's," he replied frankly; "but it's only to hillustrate the hargyment like, and it does just as well. What is my miraculous tincture made of? Come, now, that's coming it a little too strong. You wouldn't guess in a month. No, there's no opium in it. Opium, hey! what, and get a profit out of penorths! There's no harm in it. They say simple remedies are the best, and I'm blest if they could have a simpler one than mine. They might swallow a pailful of it and it wouldn't hurt 'em. Can it possibly do them any good? I'll tell you what, guv'ner"—and here the proprietor of the miraculous tooth-ache tincture grew serious, almost solemn—"I assure you I've seen it do 'em that good I've been perfectly thunderstruck. I've had 'em come here with their jaws bound up,

and black under the eyes with pain, and I've rubbed their gums with my tincture, and they've been free from pain that minute." "It must be faith," I suggested. "It must be something," returned the ex-house painter with a glance at his bottles that betrayed his consciousness that the key to the mystery was not contained within them, "but it has often been a puzzler to me, as I tell you, fair and honest." —*Telegraph*.

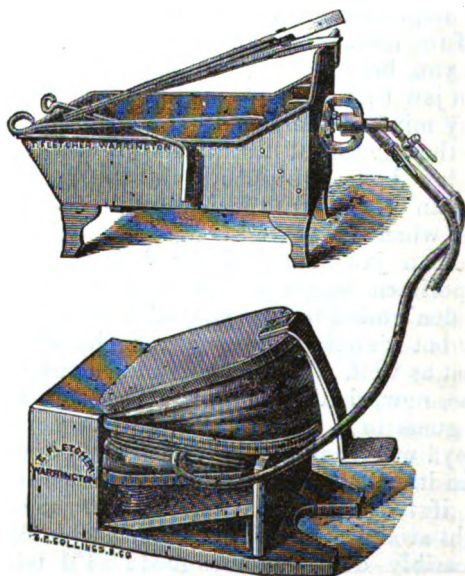
THE USE OF GASEOUS FUEL, WITH SPECIAL REFERENCE TO ITS APPLICATION TO LABORATORY FURNACES.

By THOMAS FLETCHER, Esq., F.C.S.

(From the 'Journal of the Society of Arts.')

(Concluded from page 586.)

Another and more generally important apparatus is what may fairly be considered a new discovery, so far as gas is concerned. It is only too well known that good steel is ruined if heated with a gas blowpipe flame, and that steel



Fletcher's Forge and Blower.

band saws brazed with a gas blowpipe are brittle and worthless. It is also impossible to weld with the heat obtained

from a blowpipe. I find, by using the small hearth which I have here, filled with coke, broken small, and by directing a blowpipe through the open tuyere, I can get a welding heat in about two or three minutes, and I obtain heat which is for all practical purposes as good as a charcoal forge. For the repair of small tools, and for such delicate forgings as are necessary for sewing machines, &c., this new adaptation of gas appears likely to become exceedingly valuable. It is, in fact, a small self-lighting forge, perfectly clean and simple in use, and adapted for the most delicate work; its value those only who have delicate steel forgings to make can appreciate.

Mr. HEARSON said he should like to correct one statement which Mr. Fletcher had made with regard to the Sun gas-making machine, which he was sure was made inadvertently, but which was calculated to give a wrong impression. As the inventor of that machine, he begged to state that it did not contain a particle of any fibrous material, and he believed it was the first machine of the kind in which no fibrous material to dissolve the gasoline was used. From Mr. Fletcher's description of his carburetter, it seemed very similar to the generality of apparatus used for that purpose.

Mr. JONES asked if the coffee-roasting machine was made for sale.

Mr. FLETCHER said he must refer to the patentees, Messrs. Bonser, for an answer to that question. He had made the patterns for them, and that was all he knew about it. He wished to add that the gas supply was not nearly so good as he had expected, and some of the experiments, in particular the musical chimneys, had not succeeded so well as they should in consequence. In reply to a question whether the blowpipes could be used with a fan as well as with a blower, he said it could be done by enlarging the air way. The one he had been using was made for a high pressure blast, the object being to get a powerful burner with a small foot blower.

A MEMBER asked what was the durability of the casings; how long would the material last?

Mr. FLETCHER said it depended on the temperature to which it was exposed. You could easily get a temperature which would fuse anything, but if you did not go beyond the temperature necessary to fuse nickel, which was approaching a blue heat, the casings would stand practically an unlimited time. He had worked them day after day, and all day long, at a blue heat—beyond a white heat. One casing had been worked at blinding white heat for a week, ten hours a day.

He believed there was no other furnace which would stand that heat for such a length of time without coming to pieces.

The SECRETARY asked Mr. Fletcher how he arrived at his figure of 1s. 2d. per cwt. as the fuel value of the gas. It was said that from one ton of coal, partly cannel and partly ordinary, there were produced, besides the residual products, 10,000 cubic feet of gas, and this was calculated at 1s. 2d. per cwt. as a liberal allowance for its fuel value. He wished to know how that figure was arrived at.

Mr. FLETCHER thought he was exceedingly too liberal to the gas companies in giving that figure. He judged by Manchester, where coal was worth about 6d. per cwt., and that if he allowed more than double that as the fuel value, he gave a large margin. The figures were of necessity vague, because there were no known data which would give an exact result. However, he did not come to speak on theoretical or chemical matters, but to put before them the practical use of gas as fuel. The figures were simply a rough approximation.

The CHAIRMAN then proposed a cordial vote of thanks to Mr. Fletcher for his most interesting and instructive lecture.

Mr. WILLIAM BOTLY begged leave to second the motion. Knowing something of the manufactures of the country, he considered that every one interested therein was very much indebted to Mr. Fletcher for his paper, and for the beautiful experiments with which it was illustrated. To the steel manufacturer this system would prove a very great boon indeed, for in the paying, smelting, and welding of steel it would be most useful. The goldsmith and silversmith would also be greatly assisted by it, and so would the enameller. Those who had seen that beautiful work carried on at Messrs. Elkington's, or at Christoffe's, in Paris, would recognise at once how important it was to have such a ready and efficient means of obtaining an efficient heating apparatus. In culinary and general domestic purposes also, it gave promise of great economy, and lastly, it seemed to be very useful in the roasting of coffee. As many would remember, coffee was formerly roasted in something like a frying-pan; then came Savage's process, the cylindrical, which was a great improvement, and lastly came Dakin's silver coffee-roaster, which was also cylindrical. He thought the community at large, and the various trades he had mentioned in particular, were much indebted to Mr. Fletcher for the assistance he had rendered them in the various operations.

The motion was carried unanimously.

NECROSIS OF LOWER JAW.

At the ordinary meeting of the Pathological Society of London, held on Tuesday, May 4th, Mr. CRIPPS exhibited a sequestrum consisting of nearly the whole of the lower jaw from a case of cancrum oris. A child two years old was admitted into St. Bartholomew's Hospital under Mr. Savory's care, with a history of having been perfectly well till a fortnight previously, when she was attacked with fever, loss of appetite, and a swelling over the right side of the jaw, which at the time of admission extended from the last molar to the canine tooth; a week later this swelling had involved the whole of the lower jaw. The swelling was hard and very defined; ulceration set in in the older part, and then after an interval the whole of the involved soft tissues sloughed, and the child died. The sequestrum was removed from the slough at the post mortem; it was then found that the disease had begun to involve the upper jaw also. The case differed from cancrum oris in some particulars, especially in its slow course. Subsequently it was ascertained that a favourite cat with which the child had been playing had suffered from swelling of the nose and mouth, with fetid discharge, for which it was killed. Hamilton described the disease a century ago, and since his time little, if anything, had been added to our knowledge of the affection.

Mr. MORRANT BAKER had seen the case during life; although it was more like cancrum oris than anything else, it certainly did not present the usual features of this affection. He thought it fairly probable that it might be a special disease.

Dr. THIN asked if the child had taken mercury at any time?

The PRESIDENT remarked that it was quite unusual for cancrum oris to affect the bone so extensively; had the child been exposed to the fumes of phosphorus?

Dr. DOWSE inquired if the child had had measles, for he had had several cases of cancrum oris as a sequel to measles; in one instance he had three patients in one house, all of whom soon after recovering from measles had extensive necrosis of the lower jaw; two of them died. The disease in these cases seemed to begin in the alveolar process.

Mr. C. MACNAMARA considered it to have been a case of acute necrosis of the jaw from periostitis, such as is often seen in the extremities of young children, and that it could hardly be called cancrum oris.

Dr. SHARKEY had seen a case of cancrum oris in St. Bartholomew's Hospital following measles, in which the right half of the necrosed jaw came away, and the patient recovered.

The PRESIDENT, on calling on Mr. Cripps to reply, remarked that the Society had only seen the sequestrum, while Mr. Cripps had seen the whole course of the case.

Mr. CRIPPS stated that there was no history of mercury, phosphorus, or measles, and he could not agree to consider it acute necrosis, for it began first at one part, then slowly spread, and later on again spread and reached the upper jaw; the necrosis was secondary to the sloughing of the soft parts.

BOGUS DIPLOMAS.

THERE will not for the future be so many medical men of a certain kind as there have been in years gone by, for Mr. John Buchanan, a wholesale manufacturer of doctors, has been discovered and caught, and his trade is suppressed. "Dean" or "Doctor" or "Professor" Buchanan—he was indifferently known by each of these titles, and had an equal claim to all—was some years ago porter in an oil-cloth shop in Arch Street, Philadelphia. This was not a remunerative occupation, and the prospects it held out were the reverse of encouraging, so Buchanan conceived the brilliant idea of becoming a doctor, and having found out how easy it was to transform himself into one of the medical fraternity, he devoted his life to making doctors of other people. There are, it is to be feared, not only in America, but in England and on the Continent of Europe, many practising medical men who have diplomas certainly, but diplomas which do not possess much value in the eyes of those who know whence they came; and many of these were granted by Dean Buchanan. The ex-oil-cloth porter understood that he alone could not grant diplomas, and that he must represent an institution of some sort or other; so he founded the Eclectic Medical College of Pennsylvania, and constituted himself Dean. So great was his success that in a short time he founded the Livingstone University of Medicine, which was followed by the University College of Pharmacy, and five or six similar seats of learning and science, each seat being in reality a small house, or a room in a house, where the Dean or one of his clerks could carry on a correspondence. Buchanan grew bold when he found that he could follow

his trade with comparative impunity, and he advertised for customers. A diploma might be obtained for just whatever a "doctor" could afford to pay for it. At last, however, the Dean went too far. He has been arrested, and his various "colleges" and "universities" have been searched. Large parcels of diplomas, all signed and ready for use at a moment's notice, were discovered in his office, and a complete composing and printing establishment was found in the basement of his house. Bundles of letters from all parts of the world from men desirous of obtaining diplomas were among the papers, and these will be made use of on the trial. The plates from which the diplomas were obtained were also captured, and valuable information concerning other gentlemen of the same kidney in other States fell into the hands of the Government officers. Great satisfaction is felt at the downfall and suppression of Buchanan. Persons who wish to be doctors and to avoid the necessary studies, examination, and tiresome matters of that kind, will alone regret Buchanan's fate.—*Evening Standard*.

THE 'LANCET' AND THE DENTIST.

It is against our rule to refer to the conduct or politics of our medical contemporaries, but we must for once allow an exception and offer some remarks upon the unfair attitude which the 'Lancet' has assumed towards the Dental profession. It is not needful that we should explain to our readers the present organisation and constitution of this specialty, which, by the unremitting exertions and self-sacrifice of its leading representatives, has progressed within the last twenty years from the condition of a degraded trade to the position of a legitimate branch of the medical profession. Besides a fair sprinkling of men of high scientific distinction it numbers in its ranks a large number of well-qualified practitioners, the great bulk of whom hold only the diploma in Dental surgery. This diploma is now granted to candidates only after complying with a really well-devised curriculum and passing a fair examination; and no one can dispute that, so far as such regulations can assure it, a man duly qualified with the Dental diploma is a good Dentist; and, indeed, it is well known to us and to all who have had the opportunity of learning the facts that, take them all together, the Licentiates in Dentistry are a body of men worthy of the confidence of the public and the profession.

Many of the licentiates have done good work in science, and one, at least, is distinguished as a F.R.S.

Of course, we are all agreed that the higher the education of practitioners of every class the better; and it would, no doubt, be a step in advance if every Dentist possessed a full surgical as well as a Dental diploma. But the practical fact existed that the public demand for fairly qualified Dentists greatly exceeded the supply, and the only means of meeting the difficulty, and not allowing the public to remain at the mercy of totally uneducated men was to educate and equip for practice a body of men like the Dental licentiates. These hold exactly a similar position in the Dental profession to that of general practitioners in the medical. No doubt it would be a step in advance likewise if instead of holding, as a majority now do, the lowest qualifications compatible with a legal right to practise, every general practitioner could boast, for instance, of such degrees as the M.D. Lond. and F.R.C.S. Eng.; yet no one questions the sterling value of the existing general practitioners who are doing, and ably doing, the greater part of the active medical work of the country. We repeat, the Dental licentiates are worthy by virtue even of their education alone, of as much consideration from their brethren, whether medical or Dental, as any body of men in the profession, whilst, as we have said, their claims are enhanced by their undoubted personal and scientific reputation, so that we think we are justified in going somewhat out of our way to protest against the manner in which they have been treated of late by our contemporary. The 'Lancet' has for a considerable period lost few opportunities to decry the Dentists, and has ended by offering them a direct and unprovoked insult. It has not only announced that it cannot recognise them as members of the profession—although this recognition has been conceded by the medical corporations and by the legislature—but it has found a pretext to publish the fact that it considers them not fit persons to be admitted to professional intercourse, for to this certainly amounts the declaration that on the grounds of their professional inferiority they cannot be allowed to take part in the discussion of a Dental subject in the columns of the 'Lancet.' This declaration was made in reference to an invitation addressed by the editor to his readers, asking that they would favour him with their views on the practicability of "extracting teeth and putting them back into the jaw." Now, had the editor been aware, as he might have been, of the work going on among the men he so despises, he would have known that this subject was months ago exhaustively and ably discussed at the Odon-

tological Society—a society composed mainly of Dental licentiates—and that the discussion is published as usual in the Society's 'Transactions.'

The first contribution from a Dentist which the editor's appeal has brought forth, forms a fitting sequel to the words and acts of our contemporary. This is from an M.D. practising Dentistry, but as his name does not appear in the 'Medical Directory,' we cannot say of what university he is a graduate. His qualifications, both actual and nominal, are, however, sufficient to satisfy the editor of the 'Lancet' that he is a worthy member of the profession of the honour of which the editor is so jealous. As for the contribution with which he favours the 'Lancet,' we know not how to treat it, unless to take it as a joke, for it is in both manner and matter an incomprehensible travesty of a scientific composition. We can only suggest that possibly it is published as affording an example of the style of composition which might find its way into the columns of the 'Lancet' were they open to the writings of those despised, uneducated Dental practitioners whom the editor desires to place under a ban of professional excommunication.—*Med. Press and Circ.*

DEATHS FROM CHLOROFORM.

AN inquest was held on May 31st, at the Radcliffe Infirmary, before Mr. Hussey, coroner, on the body of James Adcock, a waiter at Brasenose College, who died in the institution on the previous day while under the influence of chloroform. The deceased met with some injury to his shoulder by a fall on Thursday last. He came to the infirmary on Sunday, and a dislocation of his shoulder was detected. Chloroform, as is usual in such cases, was administered to relieve the pain during the necessary operation of putting the bone into place. The deceased died suddenly during the operation, or immediately afterwards. Chloroform was administered by Mr. Vachell. Deceased breathed it. There was no difficulty in his taking it. The action of the heart suddenly failed. The usual restoratives were applied. The pulse stopped before his breath ceased. He had repeatedly given chloroform before, and he gave it on Sunday on a single fold of linen. The body had been examined that day. The heart was large, with much fat in the substance of it. The lungs were emphysematous; the liver was fatty. He had seen four persons previously die under chloroform. As far as he knew, no medical man could tell the state of deceased's

heart when it was in the condition in which the deceased's was. The cause of death was paralysis of the heart.—*Brit. Med. Journ.*

DR. BOGDANIK sends us the following note of a case recently reported as under the care of Professor Bryth, of Cracow. The patient was fifty years of age, a drunkard, and the subject of pulmonary emphysema, but no obvious cardiac disease, and on May 14th he was about to be operated on for the removal of an enchondroma of the upper lip. About seven minutes after the administration of chloroform was commenced the respiration and pulse ceased. Artificial respiration was immediately had recourse to, and the tongue was drawn forward, but neither these efforts nor faradaism and tracheotomy were successful in restoring life. The post-mortem examination showed extreme emphysema of the lungs, hypertrophy of the right ventricle, congestion of liver and kidneys, and arterial atheroma.—*Lancet.*

WITHIN a few weeks two deaths from the use of chloroform have occurred at Chicago. 1. One was a young man undergoing an exploratory operation for necrosis at the Eclectic Medical College. Only a little chloroform was used, and that with caution. No heart disease was found post mortem, but the brain was thought to be softer than natural. 2. The other case was a weakly man, under middle age, with organic heart disease, who had been an invalid for several years. He received a crushing injury to the thumb, and was taken to a drug store, kept by a physician, to have it dressed. Amputation being necessary, ether was first tried, but anæsthesia not being promptly induced, chloroform was substituted. After a few inspirations the patient died, the quantity of chloroform used having been small. The heart was found fatty, and affected by valvular disease.—*New York Medical Record.*

MAGITOT ON DENTINE.

AT a recent meeting of the Paris Academy of Science, M. G. Magitot reminded his hearers that, in accordance with the views of Professor Owen, the tissue which enters into the essential part of the teeth of the majority of animals has hitherto been known under the name of dentinal tissue or dentine; and the structure of this tissue has been considered to consist of homogeneous fundamental substance, traversed everywhere by canaliculi. M. Magitot, however, has been

led to consider the dentine rather as a fibrillar tissue included in a hard and homogeneous mass, in which the canaliculated structure cannot be recognised. The bony tissue itself, occupied, as we know, by ramified cells, can no longer be looked on as furrowed by cavities and canals. The developmental facts of dental tissue also support these anatomical views. —*Brit. Med. Jour.*

SIR JOHN LUBBOCK has been elected Member of Parliament for the University of London, in succession to Viscount Sherbrooke, on the nomination of Dr. Samuel Wilks, seconded by Dr. Frederick Wood.

Miscellanea.

ON PASSING EVENTS.

By "PHOSPHOR."

THE 'LANCET' AND THE DENTAL PROFESSION.

How long will the proprietors of the 'Lancet' allow themselves to be deluded by the meaningless diatribes that now disgrace its pages? Have all those who once supervised its columns and raised it to eminence departed in disgust? Have the old race of giants seceded and given place to a colony of pigmies? We sometimes hear of dwarfs in stature being very giants in intellect, but here the mere semblance of intellectual strength seems to have vanished. Let the reader who thinks that I am prejudiced judge for himself and read the article that appeared in the 'Lancet' of June 5th, and upon which you have so ably commented in your leader of last month. I don't plead for favour, I only ask for justice, and all who value right will see the force of my demand. The 'Lancet,' it would appear, desires to shield itself behind its armour plates of silence, but when a journal ceases to merit the respect of those for whom it is written, it will not be long before it ceases to receive the support upon which it must depend.

The 'Monthly Review of Dental Surgery' in a letter from a surgeon practising Dentistry, very sharply reprimands our ill-mannered dictator. After quoting from the paragraph commented upon in my "notes" last month, the writer goes on to say, "It is not necessary to point out that the obvious and sole meaning of this offensive paragraph is that none but 'surgeons practising Dentistry' are worthy of recognition

as legitimate practitioners, and that the editor would refuse any contributions from a mere Licentiate in Dental Surgery, however valuable it might be as a scientific exposition of the subject under discussion." Mr. Henry Sewill has also addressed a letter to the 'Lancet,' this in the first instance they neglected to publish, but finding that it appeared in the pages of the 'Monthly Review' *as addressed to them*, in their issue for June 19th, they gave it a place, but not until it had been already published and read. A very pregnant paragraph in this letter is worth repeating: "So far as the mere fulfilment of a curriculum, and the possession of a diploma, can indicate the proper status of a practitioner, there is a vastly greater difference between a M.R.C.S. in general practice and a M.D. London, than between a L.D.S. and a M.R.C.S. practising as a Dentist; yet we never hear now-a-days of a physician with the highest qualification refusing to co-operate in scientific work with medical practitioners holding inferior diplomas?"

One thing may safely be averred that the 'Lancet' has only punished itself by the exclusion of the Licentiate in Dental Surgery from their discussion on "Extracting teeth and putting them back into the jaw." So far the letters published have been singularly free from anything like *discussion*, and confined to the relation of a few uninteresting cases, and some novel American speculations by a gentleman without an English qualification at all.

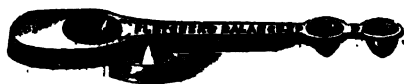
THE LANE AND PASSMORE ARTICULATOR.

WE have received from Messrs. Ash a very neat little instrument with the above title, it consists of a small hinge, two brass screws, and two pins, for holding the models together; with a steel pin and screw for raising the bite when necessary. It is simple in its working, easily understood, and appears to give a perfect and permanent register of the bite. The directions given for using it are as follows:—First fix the pins and screws in position; rough the back of the models, so that the plaster, to be added, may adhere to them; fill the space between the models with paper, to prevent the plaster covering the regulator and uniting the models; oil all the parts to be imbedded; and place the articulator on the models, then pour plaster over the ends of the articulator, flush with the heads of the brass screws. When the plaster is thoroughly set, the pins may be removed and the models trimmed in the usual way. In the event of the bite not being taken wide enough, the regulator can be

adjusted to any height required, and fixed by the steel centre screw. To release the articulator, remove the brass screws and take it carefully from the models; the register of the bite will be thus preserved.

FLETCHER'S DIFFERENTIAL BALANCE FOR AMALGAMS.

THE necessity for weighing the proportions of filings and mercury is generally acknowledged by those who have tested and who care for the results obtained. The differential balance, devised by Mr. Fletcher some years ago, has proved of great value for this purpose; and with a view to making



them more perfectly and at a cheaper rate, he has prepared a set of steel dies, by which they are struck up in German silver or brass, ensuring absolute truth and uniformity. They are afterwards nickel-plated to resist the action of mercury, and polished; and the result is as neat and useful a little apparatus as could be desired in the operating room.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following were the questions submitted to the seven candidates for the Licence in Dental Surgery of the Royal College of Surgeons, at a meeting of the Board of Examiners on the 21st inst., when they were required to answer at least one of the two questions on each subject, viz.:

Anatomy and Physiology.

1. Describe the superior maxillary bone, including its connections with other bones.
2. Describe the act of deglutition; and state how the larynx is protected from the intrusion of food.

Surgery and Pathology.

1. How would you treat a fracture of the horizontal ramus of the lower jaw?
2. Define what is meant by the word ulceration; and describe how an ulcer is treated.

The candidates were required to answer at least two out of the three questions in each of the following subjects, viz.:

APPOINTMENT.

F. Fox, M.R.C.S.E., L.R.C.P.L., L.S.A.L., has been appointed Dental Surgeon to the Infant Orphan Asylum, Wanstead, vice J. S. Tracy, M.R.C.S.E., L.R.C.P.L., resigned.

Correspondence.

[We do not hold ourselves responsible for the opinions expressed by our Correspondents.]

To the Editor of the 'British Journal of Dental Science.'

SIR,—It was with regret that I learned from your editorial remarks that Messrs. Churchill had decided to omit for the future the list of English Dental licentiates from their Directory. You say, sir, that is on account of so few licentiates subscribing; that may be so, but at the same time, although perhaps comparatively few licentiates have their names amongst the list of subscribers, very many of them purchase the Directory through their bookseller.

I am sure the mass of English Dental licentiates appreciated the courtesy on the part of Messrs. Churchill in placing that list in their Directory, and I feel sure that had they, before curtailing that list, sent a notification of their intentions to the licentiates (it would have been well received) it would have given the latter an opportunity of becoming subscribers, and so swelling that list and obviating its obliteration.

If the list of licentiates is omitted in future issues it will greatly lessen the value of the work as a book of reference. Not only will Dental practitioners have less interest in the work, but medical men will also be deprived of the advantage of having a list of qualified Dental practitioners to refer to when requiring information in that direction. I would ask Messrs. Churchill kindly to consider these points before coming to a final decision.

I am, &c.,

GEORGE HILDITCH HARDING.

4, Finsbury Square.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In connection with the recent studied and gratuitous slight which the 'Lancet' has put upon the Dental profes-

sion by refusing to discuss a question in pure Dentistry with us, the following circular may be pertinent.

"The Lancet' Office,
"423, Strand, London;
"Nov. 1, 1879.

"DEAR SIR,—In view of the important scientific and medico-social questions likely to occur during the ensuing year, I think it desirable to make special arrangements with regard to lectures, original papers, and cases for the 'Hospital Mirror,' which it is desirable should appear in the columns of the 'Lancet.'

"Will you kindly inform me whether you desire that your name should be included in the list of contributors.

"I also beg to draw your attention to the following rules, which will tend to adjust the pressure on our space and prevent disappointment:

"1. Contributions should be written on one side only, and in a condition to place in the hands of the printer; and when illustrations are necessary the woodcuts should be sent with the MS.

"2. Communications to the 'Lancet' must be exclusive, and in the case of lectures the MS. must be forwarded immediately after delivery to give me the option of publishing without delay.

"3. We cannot receive proofs from other journals.

"It is requested that a reply may be sent at your earliest convenience.

"I remain,

"Yours truly,

"JAMES WAKLEY, M.D.

"Editor of 'The Lancet.'"

It is the second time I have received the solicitation, and one if not two other Dentists in the same town, who have no medical degree, have also received it. I think this shows plainly that it is not from any real convictions that Dentists were unworthy to discuss subjects in its paper, but merely to please a certain political party, that the obnoxious remark proceeded, a course that is rather a surprise in a journal of such standing as the 'Lancet.'

Yours, &c.,

L.D.S.

To the Editor of the 'British Journal of Dental Science.'

SIR,—In your columns there appeared some months ago a statement relating the extraordinary performances of some Chinese quacks, and their extraction of teeth painlessly by the application of some powder on a piece of paper. At

that time I communicated with a medical friend in Han Kow, asking him to investigate the matter. I have much pleasure in being able to send you the result of his inquiries.

Extract from a letter dated Han Kow, April 29th, 1880 :

"I have been intending to write to you on what we were talking about—the painless extraction of teeth by the Chinese practitioners. Well, I have had ten months' experience, and from the number of persons who have applied to me for the extraction of teeth, I am prepared to say that the Chinese themselves do not believe in any such thing. There are many tricksters about who profess all sorts of impossible things, and some of them find many dupes, but I find on inquiry from my chief assistant, who has been in this hospital ten years, that as a rule the Chinese put these extraordinary professors down as mountebanks. The native doctors know nothing of surgery, and as regards the action of therapeutics they seem to me worse than the Hindoos. Here and there they have hospitals among themselves, and the doctors take different departments—one for the foot, another for the hand, another for the head—much like the old Egyptians. Before I go on any further allow me to thank you for the directions you sent me for the extraction of teeth; they will be put up in my consulting room. By the way, I was applied to the other day by a Chinese lady to make her three upper incisors; her mouth was becoming deformed by what she had, and she wished to have them removed, but I was to *give* her three in the place of them or I was not to take them out. I recommended her to go to a Dentist at Shanghai."

The above is interesting, as it shows that the Chinese do not possess any knowledge of Dentistry, and also that ladies are ladies even in Han Kow.

Yours, &c.,

GEORGE BRUNTON.

Leeds.

L.D.S.R.C.S.I.

To the Editor of the 'British Journal of Dental Science.'

SIR,—Kindly permit me to correct an error in my letter of your last issue.

The entire sentence "this is simply a *reductio ad absurdum*" should have been omitted, and was unintentionally inserted in the copy sent to you. The mistake occurred through altering and then copying an original letter, in which the phrase was, however, accurately applied.

Apologising for my negligence, also for thus wasting your valuable space.

I am, &c.,

AN ENGLISHMAN, FOR SOME YEARS
A RESIDENT IN IRELAND.

To Correspondents.

1. Communications intended for insertion in the ensuing number must be forwarded to the Editor, at the Office, 11, New Burlington Street, London, W. by the 8th and 23rd of the month, or they cannot be published in the ensuing issue; they must also be duly authenticated by the name and address of the writer.
2. All communications relative to subscriptions and advertisements are to be addressed to the Publishers, Messrs. J. and A. Churchill, 11, New Burlington Street, London, W.
3. It is earnestly requested of our correspondents that their communications be written on one side of the sheet only; and we also beg to call particular attention to the importance of a carefully-penned signature and address.
4. The Journal will be supplied direct from the office on PREPAYMENT of subscriptions as under:
Twelve Months (post free) 14s. 0d.
Post-office Orders to be made payable at the Regent Street Office, to J. and A. Churchill, 11, New Burlington Street, W. A single number sent on receipt of seven (penny) stamps.
5. We cannot undertake to return communications unless the necessary postage stamps are forwarded.

ANSWERS TO CORRESPONDENTS.

"L.D.S." who sends us the following extract from the 'Medical Times and Gazette,' June 26th, 1880:

"'L.D.S.'—There are now nearly 500 Licentiates in Dental Surgery of the Royal College of Surgeons. The person mentioned was, we understand, twice rejected, but has since obtained the licence from the Irish College of Surgeons, and is now practising in England."

We cannot tell to whom this may refer, but we should suppose the Editor of the 'Medical Times and Gazette' had good authority for his statement.

"SCHWALBACH."—Thanks, but the warming of mouth mirrors to prevent condensation of the breath thereon is too generally known to need further notice.

Communications received from J. H. Gartrell, W. Spencer Watson, Barton Brothers, Willoughby G. Weiss, Ed. Med. Press and Circular, John A. Gartley, A. Campion, "Phosphor," "L.D.S.I. and G.," "A Country Practitioner," W. F. Brindley (Sheffield), George Hilditch Harding, G. Gregson, "Schwalbach," F. Elwood, F. H. Balkwill, "L.D.S.," "J. O."

BOOKS AND PAPERS RECEIVED.

- 'L'Odontologia.'
- 'Die Zahntechnische Reform.'
- 'Medical Press and Circular.'
- 'Giornale di Corrispondenza dei Dentisti.'
- 'Le Progrès Dentaire.'
- 'Devon Evening Express.'
- 'Dental Cosmos.' (June.)
- 'Rules of the Dental Hospital of Exeter.'
- 'Medical Press and Circular.'

NOTICE.—We desire that it may be clearly understood that our pages are open to all for free expression of their views on matters connected with our profession. We only ask for terseness of expression and MODERATION OF TONE.

When otherwise unobjectionable, difference of political or other opinion will never be regarded by the editor as a disqualification for the admission of any communication to the pages of the BRITISH JOURNAL OF DENTAL SCIENCE.

